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Regional Modern Alluvium Sampling Survey of the Temagami–Marten River Area, Northeastern Ontario

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Regional Modern Alluvium Sampling Survey of the Temagami–Marten River Area, Northeastern Ontario

by

S. E. Allan

2001

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Regional Modern Alluvium Sampling Survey of the Temagami–Marten River area, Northeastern Ontario

Open File Report 6043

by

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INTRODUCTION

The Temagami-Marten River area of northeastern Ontario has been a historical site of mining operations in the province. Past base metal producers include the Temagami Island Mine and the Kanichee Mine, while an iron formation in the area was extracted at the Sherman Mine. Numerous sulphide showings are known throughout the area (Bennett 1978), as are a small number of arsenic occurrences. In more recent years, the discovery of kimberlite (a rock type commonly recognized as the primary host for diamonds) to the north of the survey area near New Liskeard and Kirkland Lake has triggered an increase in diamond exploration across the region. It is believed that the northwest trending (325°) Lake Timiskaming Structural Zone (LTSZ) is the fault system through which these kimberlites have intruded (Sage 1996). The Net Lake Fault lies within the northeastern section of the study area and is considered to be part of the LTSZ (Lovell and Caine 1970; Sage 2000). The intersection of orthogonal structures, such as the Grenville Front, with this series of northwest-trending faults presents potential settings for kimberlitic emplacement and therefore heightens the exploration interest in this area. A key element revealed by indicator mineral chemistry from the New Liskeard and Kirkland Lake kimberlites is the presence of a weak trend of more favourable conditions for diamond potential from north to south (Sage 1996). Evaluation of the diamond potential of this region is imperative given the geological and structural features present. Additionally, the recent lifting of the Lake Temagami land caution has opened areas previously closed to staking. However, some areas are still withdrawn from staking and the reader is advised to verify the location of these sections.

The present modern alluvium sampling study was initiated to determine the regional distribution of kimberlite indicator minerals (KIMs) in the area. The KIM suite of minerals includes: pyrope and eclogitic garnets; magnesian ilmenite; chromite; chrome diopside; forsteritic olivine; and diamond. The background signatures of magmatic massive sulphide indicator minerals (MMSIMs®), gold and platinum/palladium indicator minerals were also investigated to determine if any anomalous values are present.

STUDY AREA

Location

The Temagami-Marten River study area is represented on 7, 1:50 000 scale National Topographic System (NTS) map sheets. The northern part of the study area is covered by the eastern half of the Obabika Lake (41 P/1) and the western half of the Temagami (31 M/4) map sheets. The central area comprises the eastern half of the Lake Temagami (41 I/16) and the Ingall Lake (31 L/13) map sheets. Coverage in the south comprises the eastern quarter of the Glen Afton (41 I/9), the Marten Lake (31L/12) and the western quarter of the Timiskaming (31 L/11) map sheets.

Located in Northeastern Ontario (Figure 1), the study area is reasonably accessible owing to a network of primary and secondary roads and ATV trails as well as the presence of many lakes that provide boat access to otherwise remote locations (Figure 1; Figure 2 - back pocket).

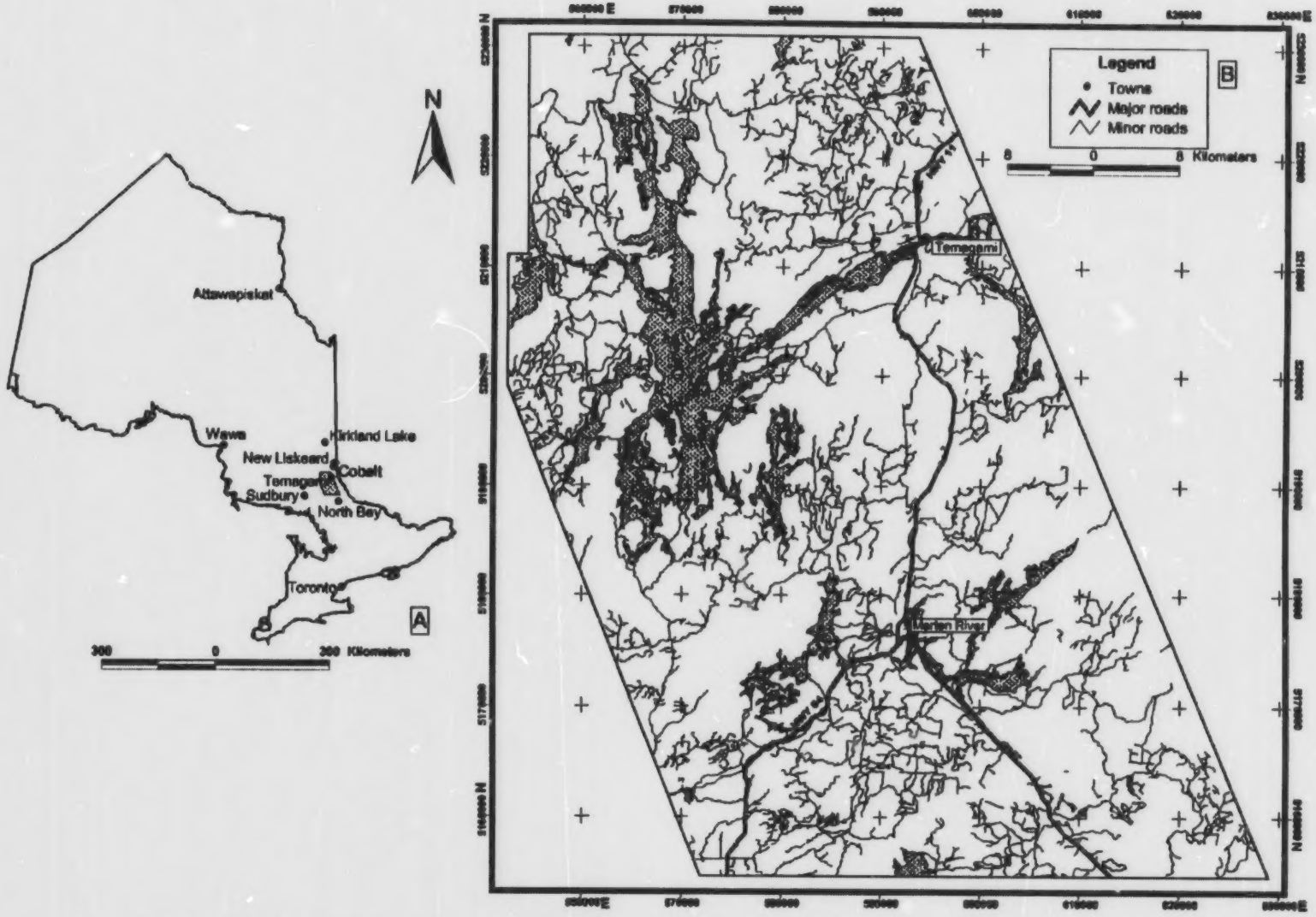


Figure 1: A) Location of study area in Ontario. Grey shaded area is enlarged in B) detail of study area showing road systems

Additionally, some lakes are large enough to facilitate floatplane access, offering an alternate means of transportation to isolated sites.

Physiography

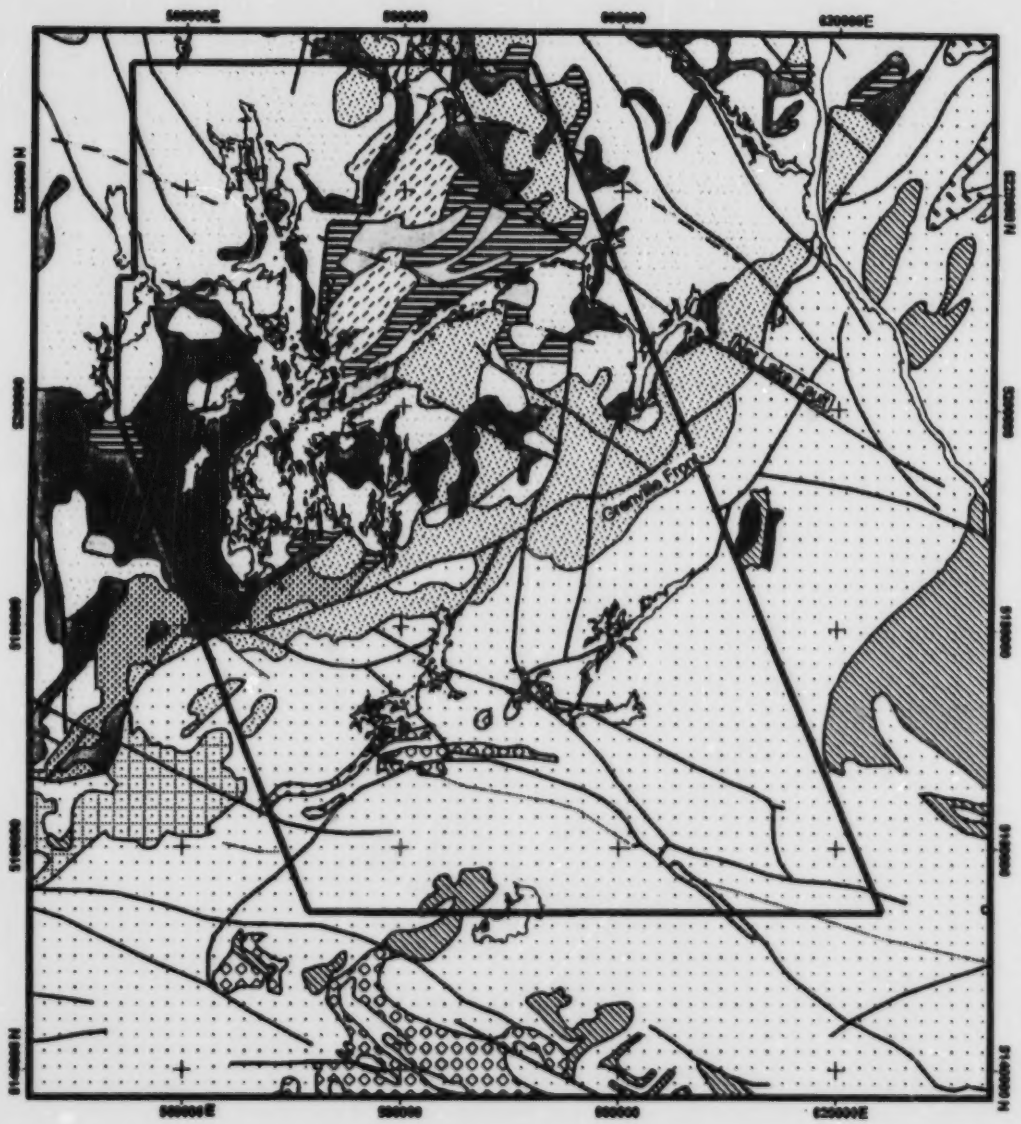
The study area falls within the Cobalt Plain and the Laurentian Highlands physiographic regions, with the majority of the study area lying in the former (Bostock 1976). The Cobalt Plain region dominates the north-northwest portion of the study area and is characterized by low, hummocky terrain of Precambrian bedrock that is disrupted by north trending ridges of younger intrusive units which attain elevations of up to 180 m asl. Rock escarpments and steep sided gullies are prominent throughout the landscape, with swamps and creeks occupying lower lying areas. Drainage patterns are controlled by bedrock structural features as evidenced by the linear and rectilinear forms of lakes (Bennett 1978). In the south-southeast, the Laurentian Highlands control drainage patterns and the topography is characterized by rugged terrain with elevations reaching 460 m asl.

Two drainage basins, Lake Nipissing and Lake Timiskaming, are present in the study area. Drainage from lakes and streams in the northwest first enters Red Squirrel Lake and then Lake Temagami, the largest water body within the region. From Lake Temagami drainage continues south through the southwestern part of the area and forms part of the drainage basin of Lake Nipissing. Water bodies in the northeastern part of the study area drain east toward Lake Timiskaming. In the southeast, streams and lakes flow either toward Lake Timiskaming and the Montreal River, or towards the Tomiko River and Tomiko Lake, and then on to Lake Nipissing.

BEDROCK GEOLOGY

The intersection of the 3 main provinces of the Canadian Shield – the Superior, the Southern and the Grenville occurs within the study area (Figure 3). Separating them is the Grenville Front, which divides the area into a northern zone consisting of the Southern and Superior Provinces, and a southern zone consisting of the Grenville Province. The main lithologic units in the study area are of Precambrian age and are overlain by a thin layer of Pleistocene glacial and glaciofluvial deposits as well as Recent lake, swamp and river deposits (Simony 1964).

The oldest rocks found in the area are Neo-to Mesoarchean (2.5 to 3.4 Ga) supracrustal, metavolcanic suites of the Superior Province. In general, these can be separated into 2 cycles of activity, beginning with mafic to intermediate flows and ending in intermediate to felsic flows (Fyon and Crocket 1986; Bennett 1978). The mafic to intermediate suite includes: basaltic and andesitic flows; tuffs and breccias overlain by chert; iron formation and minor metasedimentary rocks; and interbedded with intrusive rocks and related migmatites. The intermediate to felsic suite consists of: rhyolitic, rhyodacitic, dacitic and andesitic flows; tuffs and breccias overlain by chert; iron formation and minor metasedimentary rocks; and interbedded with intrusive rocks and related migmatites (Ontario Geological Survey 1991). These suites were formerly classified as the Keewatin Unit (Ontario Geological Survey 1991; Bennett 1978). The iron formations and



LEGEND

N

GRENVILLE PROVINCE
Mesoproterozoic (0.9 to 1.6 Ga)
Central Gneissic Belt
- Felsic igneous rocks
- Anorthosite and alkalic igneous rocks
- Migmatitic rocks and gneisses of undetermined protolith
- Mafic rocks
- Gneisses of metasedimentary origin

SOUTHERN PROVINCE
Paleoproterozoic (1.6 to 2.5 Ga)
- Mafic and related intrusive rocks: Nipissing Sills (2219 Ma)

Huronian Supergroup
- Cobalt Gp.
- Quirke Lake Gp.; Hough Lake Gp.; Elliot Lake Gp.
- Mafic and ultramafic intrusive rocks: River Valley Complex

SUPERIOR PROVINCE
Neo- to Mesoarchean (2.5 to 3.4 Ga)
- Massive granodiorite to granite
- Diorite - monzonite - granodiorite suite
- Foliated tonalite suite
- Mafic and ultramafic rocks
- Felsic to intermediate metavolcanic rocks
- Mafic to intermediate metavolcanic rocks

DYKES
- Grenville swarm (approx. 575 Ma)
- Sudbury swarm (1238 Ma)

- Surface Fault

Figure 3: Bedrock geology of the study area (after Ontario Geological Survey 1991).

metasediments are believed to be older than the metavolcanics in each case (Bennett, 1978). The metasedimentary rocks include: volcanic greywacke; argillite; and siltstone.

The metavolcanic sequences were followed by a series of intrusives also of Neo-to Mesoarchean age belonging to the Superior Province. The first of these were hypabyssal felsic intrusives dominated by feldspar porphyry dikes (Smyk et al. 1997) followed by mafic and ultramafic rocks composed of gabbro, pyroxenite, amphibolite, diorite, quartz gabbro, quartz diorite, hornblende gabbro and serpentinites (Born 1989; Bennett 1978; Smyk et al. 1997). The earlier feldspar porphyries are found predominantly on the northern edge of the metavolcanic belt whereas the later mafic intrusives are located on the southern edge. Felsic to intermediate suites were the next to intrude and consist of a granitic plutonic suite and a foliated tonalite suite. These suites include: massive to foliated granodiorite to granite; granitic migmatite; minor pegmatite and aplite; foliated to massive tonalite to granodiorite; quartz monzonite; minor trondjhemite and chloritized, sheared and brecciated granitoid rocks (Born 1989; Bennett 1978; Smyk et al. 1997). The last in the sequence of intrusives were mafic rocks consisting of diabase, glomeroporphyritic diabase, gabbro, diorite, intrusive and diatreme breccias and lamprophyre dikes. The lamprophyre dikes occupy major lineaments and faults and are dominantly north-trending (Smyk et al. 1997). The above suites are part of units formerly called Algoman and Timiskaming (Ontario Geological Survey 1991).

Subsequent to emplacement of rocks of the Superior Province, sediments of the Southern Province were deposited. In the study area the Southern Province consists of the PaleoProterozoic (2.2 Ga to 2450 Ma) Huronian Supergroup. The Huronian Supergroup comprises 4 groups, 2 of which, the Quirke Lake and Cobalt are found in the study area. The Bruce Formation of the Quirke Lake Group is found in minor amounts in the study area and includes quartz pebble conglomerate, wacke, arkose, quartz arenite, argillite, limestone and dolostone (Grant 1964, Ontario Geological Survey 1991). Of the Cobalt Group, only the Gowganda and Lorrain formations are present. The Gowganda Formation is composed of the Firstbrook and Coleman members (Born 1989). The older Coleman Member is made up of pebbly wacke, silty-pebbly wacke, arkose, pebbly arkose, pebbly arkosic wacke, arenite, pebbly arenite, mudstone, siltstone, claystone, matrix-supported conglomerates, clast-supported conglomerates, basal breccia, metamorphosed sediments, sandstone and diamictite (Born 1989, Smyk et al. 1997). The Firstbrook Member consists of arenite, wacke, arkose, shaley mudstone, siltstone, claystone, tectonically brecciated and sheared sediments, metamorphosed sediments and quartzite. The younger Lorrain Formation is composed of arkose, minor feldspathic lithwacke, micaceous lithic arkose, micaceous hematized arkose, fine-grained micaceous arkose interbedded in coarse-grained lithic arkose, thin mudstone, siltstone interbeds in arkose, metamorphosed sediments and feldspathic quartzite (Born 1989; Simony 1964).

Intruding the Huronian Supergroup are Paleoproterozoic swarms of dikes and sills of the Nipissing Diabase (2219 Ma). The rock types associated with these intrusions consist of quartz diabase, hypersthene diabase, granophyre (also known as red rock); gabbro, pegmatitic gabbro, diorite (Bennett 1978; Born 1989; Smyk et al. 1997). A series of Mesoproterozoic (0.9 to 1.6 Ga) northwest-trending dikes were emplaced next and comprise olivine diabase (Sudbury type – 1238 Ma), granophyric diabase, porphyritic diabase, intrusive breccia and lamprophyre (Bennett 1978; Ontario Geological Survey 1991). The Sudbury-type dikes are generally northwest trending (Born 1989).

Mesoproterozoic rocks of the Grenville Province, specifically those belonging to the Central Gneissic Belt, occupy the southern portion of the study area. These rock suites are: 1) gneisses of metasedimentary origin consisting of quartzofeldspathic-, pelitic to semi-pelitic- and calsilicate gneisses, minor quartzite, minor marble and marble breccia; 2) mafic rocks encompassing amphibolite, gabbro, diorite and mafic gneisses; 3) migmatitic rocks and gneisses of undetermined protolith including layered biotite gneisses and migmatites and locally quartzofeldspathic-, ortho- and paragneisses; and 4) felsic igneous rocks composed of tonalite, granodiorite, monzonite, granite, syenite and their derived gneisses (Ontario Geological Survey, 1991).

In the central part of the area, Bennett (1978) reported the occurrence of a Paleozoic carbonatite dike that strikes north-northeast. The structure is 10 to 20 cm wide and is possibly of Cambrian age.

FAULTS AND LINEAMENTS

Believed to be related to the opening of the Atlantic Ocean, the St. Lawrence Graben system divides into 2 branches at Lake Nipissing – the west trending Ottawa-Bonnechere Graben and the northwest trending Lake Timiskaming Structural Zone (LTSZ) (Sage 1996). The LTSZ is defined as a rift valley centered on Lake Timiskaming (Lovell and Caine 1970). Faults in the system strike northwest at approximately 325° (Sage 2000) and may extend outward to the southwest boundary of the Cobalt Plain. The faults are best observed and most pronounced topographically in the area originating at the Quinze Dam Fault in Quebec and extending southwest to the Net Lake Fault in Ontario (Figure 4). The LTSZ lies within and adjacent to the study area (Figure 5)with the Net Lake Fault situated in the northeastern part of the study area (Figure 3). Numerous northwest trending lineaments observed in the study area are believed to be related to fracturing associated with the LTSZ. The emplacement of Nipissing diabase and Sudbury swarm dikes is believed to have occurred along these lineaments which predate the intrusions (Born 1989; Johnston 1954).

Numerous northeast trending fracture systems have been observed in the study area (Bennett 1978; Johnston 1954; Grant 1964; Simony 1964; Born 1989; Smyk et al. 1997). The presence of these structures is clearly illustrated by the Link Lake Deformation Zone and the Grenville Front and the shapes of the northeast arm of Lake Temagami and Wicksteed Lake.

In addition, a series of north trending lineaments is evident by the north trending, linear and rectilinear forms of Kokoko Bay, Cross Lake, Hangstone Lake and north Red Cedar Lake.

QUATERNARY GEOLOGY

During the Pleistocene (1.6 to 0.01 Ma) the study area was affected by the Labrador sector of the Laurentide Ice Sheet. Typically, glacial ice advanced south-southwestward across the study area originating in Quebec and Labrador (Barnett 1991). Glacial ice flow indicators,

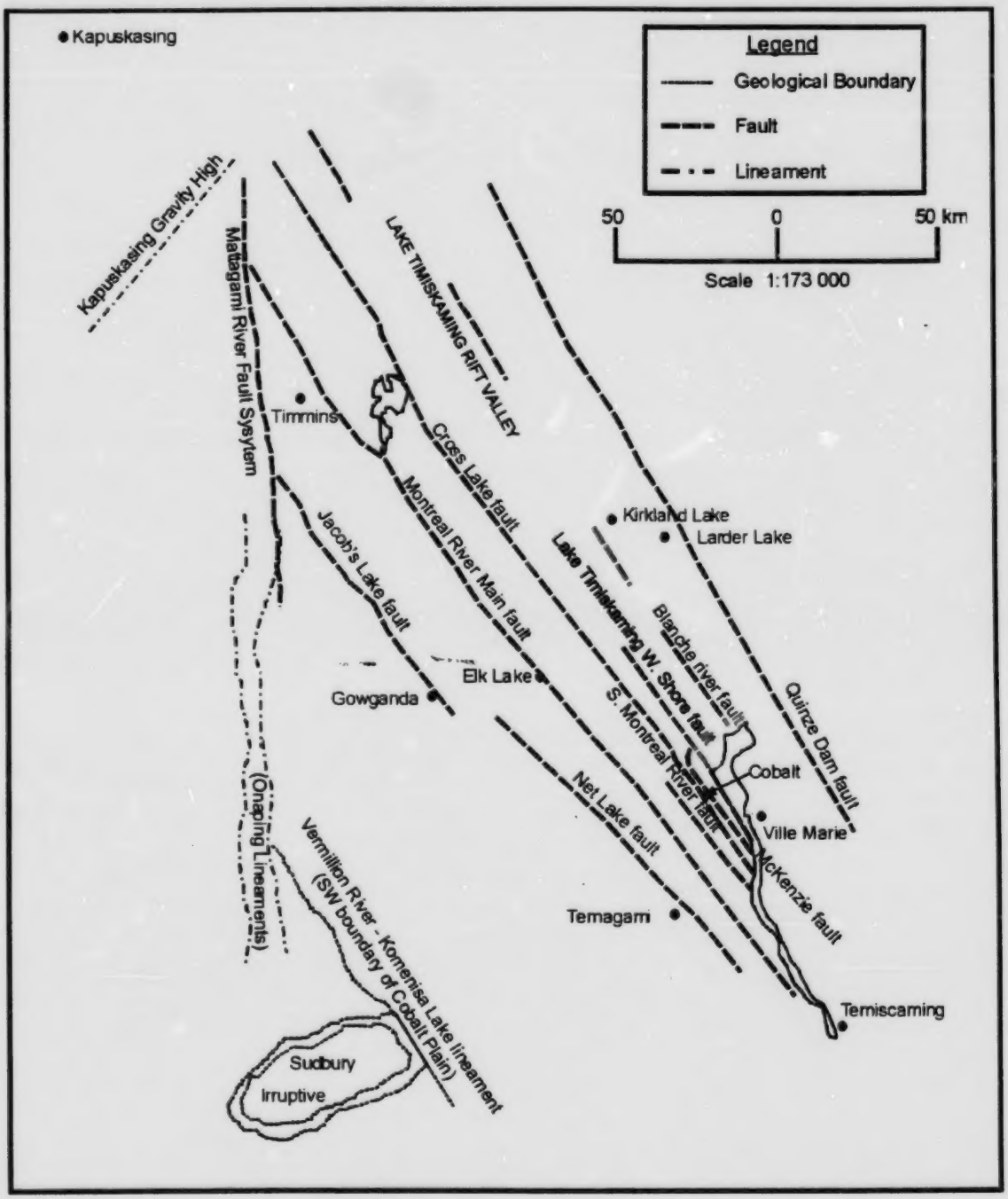


Figure 4: The Lake Timiskaming Rift Valley (also known as the Lake Timiskaming Structural Zone). After Lovell and Caine 1970.

Figure 5: Location of the Lake Timiskaming Structural Zone. the Grenville Front and known kimberlites in relation to the study aren (after Sage 1996).

specifically glacial striae, indicate the area has been affected by 3 different ice flow events (Figure 6). The oldest, a west-southwest flow, is represented by striae oriented between 230° to 270°, with a median of 240°. Striae oriented in the range of 180° to 220° indicate an intermediate south-southwest flow. The latest regional ice flow, trending in a south-southeast direction (130° to 170°) overprints the previous 2 (Veillette 1989, 1986).

The surficial deposits observed in the region (Figure 7) are thought to have been deposited primarily during the Late Wisconsian substage. Glacial processes deposited a variety of surficial deposits and materials across the region. Most prevalent of these is a thin discontinuous layer of till. The till is poorly sorted, unstratified, has sandy to silty matrix and a high content of pebbles, cobbles and boulders. The clasts reflect the composition of the underlying bedrock (Boissonneau 1968; Roed 1979).

By the beginning of the Holocene, 10 000 years ago, deglaciation in the region was well underway. Glaciofluvial deposits, in the form of ice-contact and outwash deposits, formed in contact with and distal to the ice mass. Glaciofluvial ice-contact deposits in the area are primarily in the form of eskers which consist of sand and gravel and have narrow crests and steeply sloping sides (Boissonneau 1968). Other remnants of glaciofluvial activity in the area are proglacial river and deltaic deposits, and subaqueous fan deposits (Barnett et al. 1991). In the southeast a major recessional moraine, the McConnell Lake Moraine, was deposited when the ice front halted at the south end of Lake Timiskaming. A few, smaller moraine and kame deposits are found in the region associated with breaks in the retreat of the ice margin (Gartner 1980). Additionally, Recent swamp, lake and stream deposits, as well as patches of organic peatland deposits, are found in the area (Simony 1964; Bennett 1978; Sado and Carswell 1987).

SAMPLING METHODOLOGY

The modern alluvium sampling program was conducted in July and August 2000 covering a total area of approximately 3619 km^2. A total of 256 modern alluvium samples and 2 till samples were collected . A grid spacing of 4 km^2 with lines oriented north and east was used to locate samples in the field. Owing to the nature of the survey, i.e., stream sediment sampling, samples were taken from streams as close to grid intersections as possible. In general, all grid squares were sampled at least once and the resulting distribution provides excellent regional coverage (Figure 2 - back pocket). The position of each sample was accurately recorded with a Geographic Positioning System (GPS) instrument and NTS map sheets. Sample numbers and locations (in UTM coordinates) are summarized in Appendix A (this report and MRD 72).

Modern alluvium was employed as the primary sampling medium because it is a means of acquiring a fast, inexpensive, heavy mineral signature for individual drainage basins. The primary objective of a regional scale survey is to isolate anomalies which indicate the presence of mineral deposits in the catchment area. The signatures derived are a product of erosion of bedrock and overburden as well as the subsequent transportation and depositional processes of the eroded material (Morris and Kaszycki 1997). Stream sediments are characterized by variable

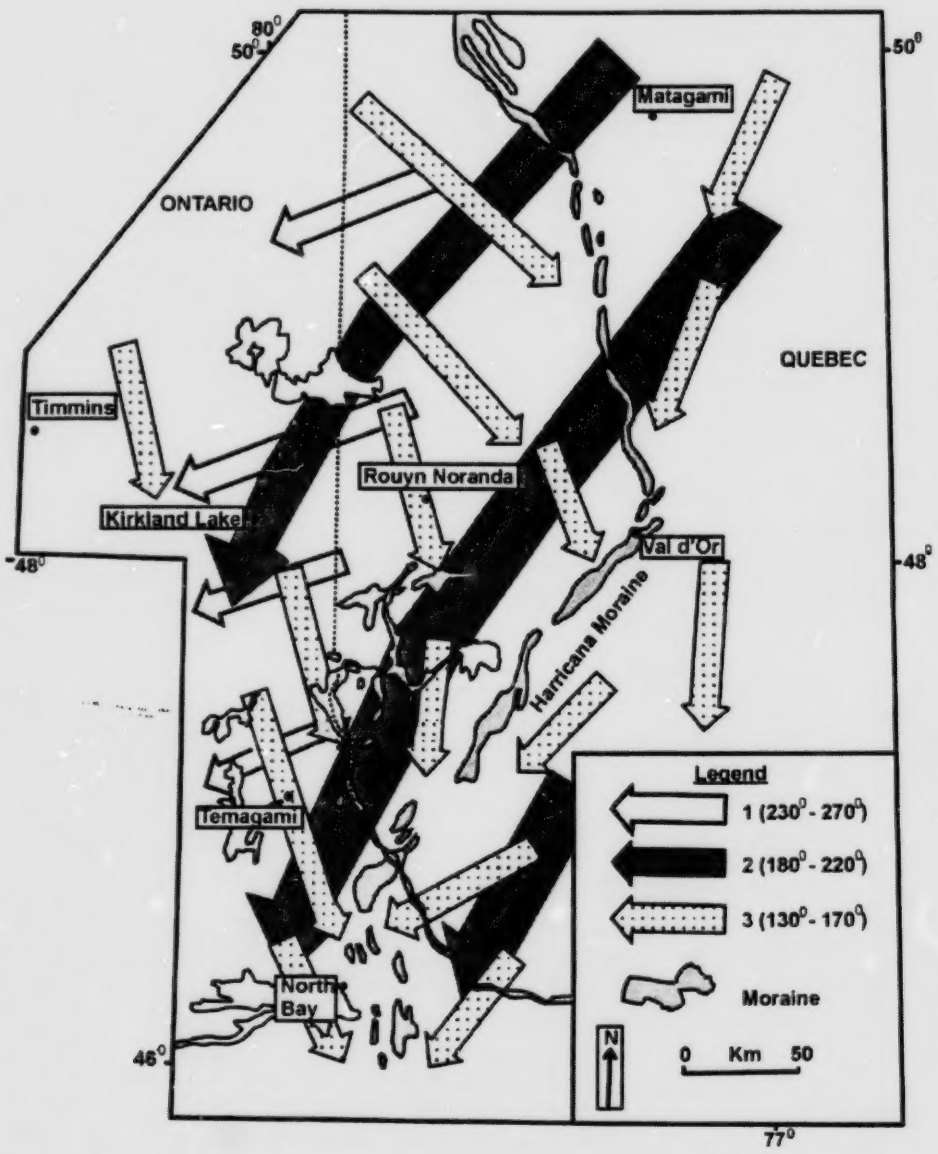


Figure 6: Ice flow movement in the Abitibi-Timiskaming area. The oldest ice flow event is the number 1 movement. Direction indicated by orientations 130° to 170° refer to the area west of the Harricana Moraine (after Veillette 1989).

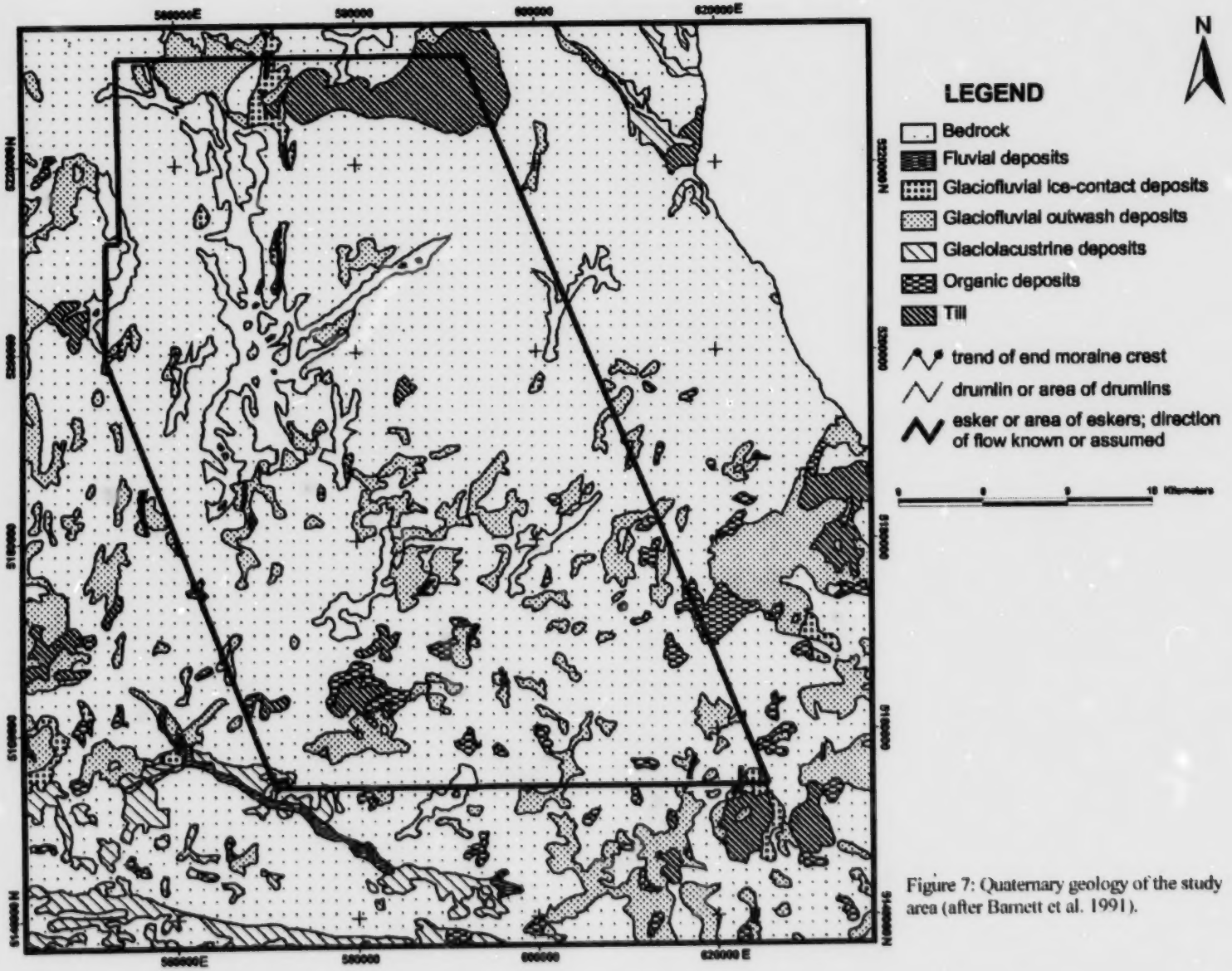


Figure 7: Quaternary geology of the study area (after Barnett et al. 1991).

composition, grain size, sorting and colour, all of which are a function of geology, terrain and climate of the catchment area sampled by the stream (Meyer et al. 1979). Of additional importance to note is that lakes act as sediment traps within drainage basins thereby hindering the transport of heavy minerals. Consequently, where feasible, sample sites were chosen as far downstream from a lake as possible, in order to maximize the area over which the stream flows, and therefore samples (Morris and Kaszycki 1997)

Within streams, longitudinal and point bars, boulder, log and vegetation traps were targeted for sample collection as these are points of heavy mineral deposition (Figure 8). Samples were sieved in the field using a 5 mm mesh screen and the finer fraction (<5mm) was collected. Samples ranged in size from 10 kg to 20 kg. At some sites, larger samples were collected to compensate for the dilution of heavy mineral grains by the high percentage of organic material found in the area's streams. Of the coarser fraction, approximately 55 pebbles were collected from each sample, where possible, for pebble lithology classification. At each site a small portion of the stream sediment was panned and the resultant concentrate kept.

Figure 8: Photograph of sample site 311 illustrating an ideal environment to sample, a sand bar deposited behind a boulder. The shovel occupies the hole left after the sediment from the sand bar was collected.

At each sample site observations consisted of: a) stream size; b) stream slope; c) strength of flow; d) surrounding vegetation and state; e) material texture; f) bar form; g) clast/pebble abundance and type; h) pan concentrate composition; i) evidence of possible contamination; j) bedrock types; and k) a location sketch. In addition photographs were taken at several of the sites.

PEBBLE LITHOLOGY

Pebble lithology studies provide a useful tool in determining whether the sediment in a stream is derived from a local or distal source. Pebbles reflecting the bedrock types in the local vicinity of the stream course indicate proximity to source. Conversely, any exotic pebbles, those derived from bedrock located outside of the drainage basin sampled, indicate that transportation has occurred over greater distances and possibly by different means. (e.g., glacial transport). In addition the shape and percentage of a pebble type may reflect distance to source. An abundance of angular pebbles suggests local derivation, whereas a minor population of well-rounded pebbles indicates longer transportation distances. However, the mineralogy of the pebble's rock type must be considered when using this approach. A rock type consisting of primarily easily weathered minerals may be quickly abraded in a stream environment, particularly if flow is strong. The resultant pebble may be rounded despite local derivation. The pebble lithology studies from this survey are summarized in Appendix I (this report and MRD 72).

HEAVY MINERAL RECOVERY AND IDENTIFICATION

Overburden Drilling Management (ODM) in Nepean, Ontario was contracted to process all samples to recover heavy mineral concentrates. Weighed samples were wet sieved into 3 fractions: <1 mm; 1-2 mm; and >2 mm, the latter of which was stored. The finer fractions were passed over a shaking table to remove light (low specific gravity) material and to obtain a preliminary gold grain count. The table concentrate was panned and a secondary gold grain count performed. Heavy liquid separation (methylene iodide, specific gravity 3.2) was used to further concentrate heavy minerals. The heavy mineral concentrate subsequently underwent ferromagnetic separation to obtain magnetic and nonmagnetic fractions. A series of various sieving and washing processes as well as additional magnetic separations, were completed to obtain the final concentrates for indicator mineral picking (Figure 9). Sample processing data is presented in Allan (2001, MRD 72, Appendix B). Isolated grains were mounted in epoxy and sent to the Ontario Geoscience Laboratories (OGL) in Sudbury, Ontario for microprobe analysis to precisely determine grain composition. A detailed discussion on the standard microprobe operating procedure is outlined in the Geolabs (2000) manual.

During the picking process KIMs, MMSIMs® and any other interesting indicator minerals were recovered. Six types of KIMs were isolated: Cr-pyrope garnets; eclogitic garnets; Cr-poor megacrystic garnets; chromite; Cr-diopside; Mg-ilmenite and forsteritic olivine. All identified grains were sent for microprobe analysis. The picking results for these minerals are outlined in Appendix C (this report and MRD 72) and D (Allan 2001, MRD72, Appendix D). Microprobe analyses are summarized in Appendix E (this report and MRD 72).

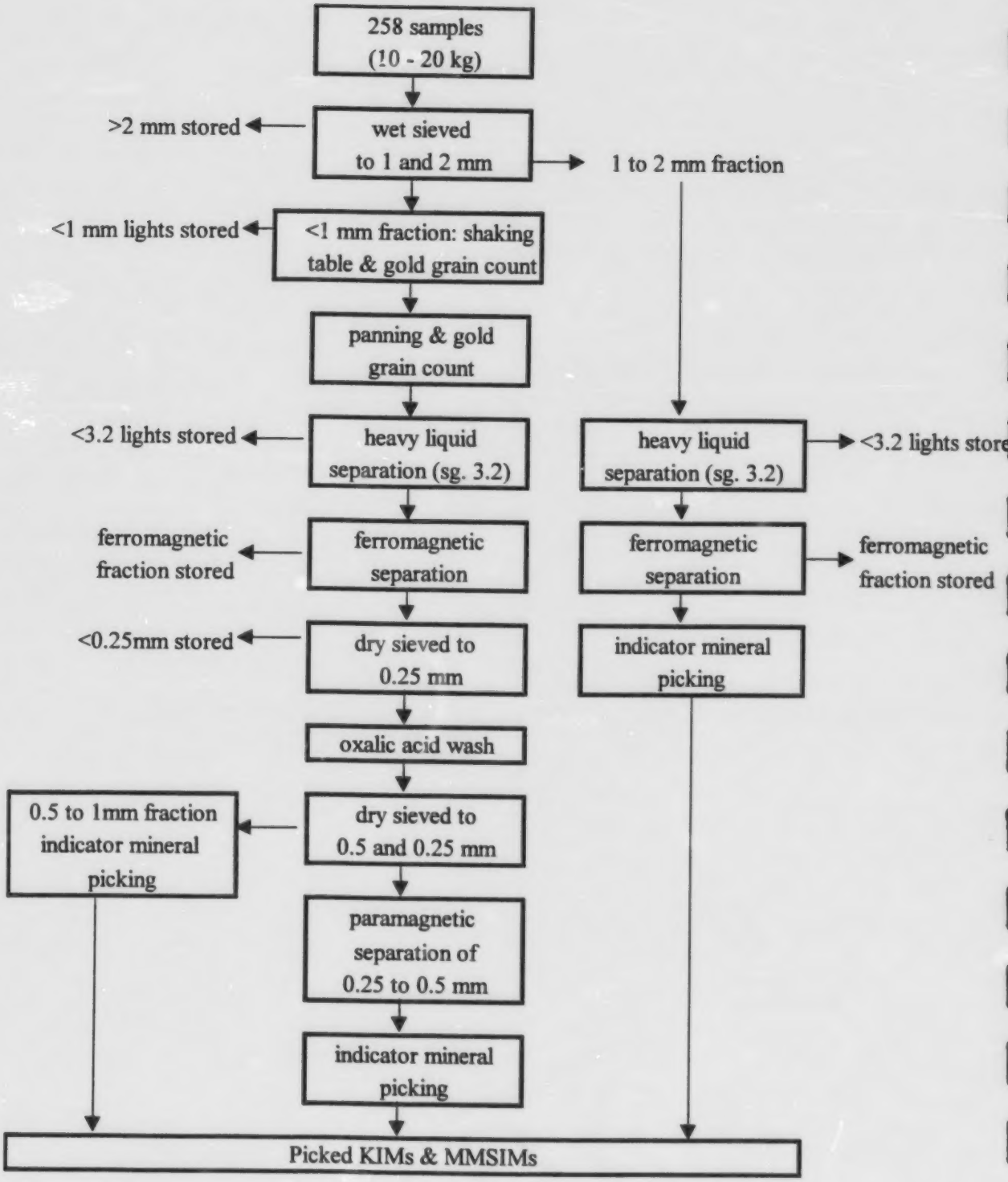


Figure 9: Heavy mineral concentrate process flowchart (after Averill 1998).

A summary of recovered gold grains is listed in Allan (2001, MRD 72, Appendix F). Grains were classified by physical appearance into pristine, modified and reshaped categories. Additionally, gold concentration in parts per billion (ppb) was calculated for each category and in total per sample.

A variety of MMSIMs® were recovered from processing and include: chalcopyrite; molybdenite; pyrite; goethite; spinel (gahnite); corundum; Mn-epidote; uvarovite, Cr-grossular; low Cr-diopside; red rutile; kyanite; sillimanite; staurolite; spessartine; fayalite; orthopyroxene and chromite. Results are summarized in Appendices G (this report and MRD 72) and Allan (2001, MRD72, Appendix H). Only gahnite, low Cr-diopside and chromite grains were sent for microprobe analysis.

DATA NORMALIZATION

Two processes of data normalization were performed on the results. The first involved normalizing the picked estimates of indicator minerals reported by Overburden Drilling Management (ODM). For samples that contain large amounts of indicator minerals, it is not time or cost effective to precisely count the absolute number of grains or pick the total amount of grains of a mineral that are present. Therefore estimates of grain counts are inferred in a fashion similar to that used in determining mineral percentages in a thin section. After isolated grains were analysed by the microprobe and their compositions confirmed, the picking estimates were normalized based on the amount of grains verified to be kimberlitic. For example, sample number 5 was estimated to contain 35 ilmenites, of which 20 were picked and sent for microprobe analysis. Analysis revealed that 11 of the 20 were kimberlitic, therefore after normalization the sample was considered to contain 19 ilmenites.

The second process involved normalizing the number of confirmed kimberlitic grains to table feed weight. The average sample weight was 11 kg, therefore, grain counts were normalized to this weight. However, these values were not used to determine anomalous sites due to large differences resulting from the normalization process. For instance, sample number 33 contained 28 confirmed kimberlitic ilmenites. After normalizing to a table feed of 11 kg from 2.8 kg, the sample was considered to contain 173 ilmenites.

All normalized data and sample calculations are listed in Appendix J (this report and MRD 72).

QUALITY CONTROL

In the field, pan concentrates were given a cursory overview with a hand lens and deemed interesting if grains of a purple lilac colour, potentially G10 garnets, were observed. Of the total field sites, 17 samples were considered of significant interest. These particular pan concentrates were washed, dried, picked by the author and isolated grains sent for microprobe analysis, in

addition to the primary stream sediment sample submitted to ODM. This procedure results in the sample being examined twice for indicator minerals although it is not the same concentrate analysed in each case. It is not a precise and accurate method of quality control, however, it does provide a supplementary means of examining a representative fraction of the sampled medium and recovering indicator minerals. Results are summarized in Table 1.

GEOCHEMICAL ANALYSIS, RESULTS AND INTERPRETATION

Kimberlite Indicator Minerals

Diamond does not actually crystallize from kimberlite magma but is merely transported by it from deep within the mantle to the surface. The diamondiferous potential of a kimberlite pipe is dependent upon various factors including the types of mantle rocks sampled as well as the redox conditions present at the time. Peridotitic and eclogitic rocks have been identified as the main sources for diamond. These diamond sources are additive and a significant contribution from either would result in a potentially economic kimberlite (Gurney and Moore 1993). Three types of peridotitic paragenesis are evident and are listed in order of relative importance with respect to diamond potential as follows: garnet harzburgite > chromite harburgite> garnet lherzolite (Gurney and Moore 1993; Gurney et al. 1993). These source rocks are disaggregated by the kimberlite on sampling, ascent and emplacement, to release the constituent minerals that are incorporated with diamonds. These companion minerals include garnet, chromite, chrome diopside and olivine. After intrusion, kimberlite is quickly and easily weathered, dispersing the constituent minerals into the secondary environment. These minerals are more common than diamond itself and are therefore easier to find. It is the identification of these heavy mineral indicators and their distinctive geochemical compositions that is fundamental to any diamond exploration program. Additionally, macrocrysts of ilmenite are believed to be representative of the oxidation state of the mantle when it was sampled and changes experienced during transportation to the surface. The presence and composition of this mineral is also instrumental in the search for diamondiferous kimberlites.

Garnet

Garnets in kimberlites can be derived from various sources including peridotites (harzburgite, lherzolite, wehrlite); eclogites, Cr-poor megacrysts and crustal rocks. In diamond exploration, the peridotitic, eclogitic and megacrystic garnets are of primary interest as they are indicative of upper mantle derived material. Megacrysts or 'discrete nodules' are thought to be phenocrysts in the kimberlite that formed at depths of 150 to 200 km. Therefore, they have no genetic connection with diamonds, which are xenocrysts in the kimberlite, but their presence in a pipe helps in ascertaining if that kimberlite has sampled a sufficiently thick lithospheric mantle keel to be potentially diamondiferous (Schulze 1999, 1993; Fipke et al. 1995).

Garnets from peridotitic sources can be divided into G10 and G9 fields, however, this distinction does not strictly adhere to that defined by Dawson and Stephens (1975). On a CaO/Cr_2O_3 plot, 85% of diamond inclusion garnets fall on the Ca-depleted side of a diagonal line

Sample number	GP (p)	GP (c)	GO (p)	GO (c)	CD (p)	CD (c)	IM (p)	IM (c)	CR (p)	CR (c)	FO (p)	FO (c)	Total KIMs (p)	Total KIMs (c)	Remarks
13	0	0	0	0	0	0	0	0	1	1	0	0	1	1	CR- overlap field
31	0	0	1	0	0	0	0	0	0	0	0	0	1	0	GO confirmed as spessartine
43	0	0	2	0	0	0	0	0	2	2	1	0	5	2	CR- overlap field; FO confirmed as quartz; GO confirmed as spessartine
115	0	0	1	0	0	0	0	0	0	0	0	0	1	0	GO confirmed as spessartine
171	2	0	0	0	0	0	0	0	0	0	0	0	2	0	GP confirmed as zircon
349	1	0	1	0	0	0	0	0	0	0	0	0	2	0	GP confirmed as zircon; GO confirmed as spessartine
367	0	0	1	0	0	0	0	0	1	0	0	0	2	0	CR confirmed as Fe-oxide; GO confirmed as spessartine
431	0	0	0	0	0	0	1	0	2	1	0	0	3	1	CR- overlap field; other CR confirmed as crustal IM; IM confirmed as rutile
467	0	0	0	0	0	0	1		0	0	0	0	1	0	IM confirmed as crustal
475	2	0	0	0	0	0	0	0	2	0	0	0	4	0	GP confirmed as zircon; CR confirmed as crustal ILM
477	1	0	0	0	0	0	0	0	0	0	0	0	1	0	GP confirmed as zircon
479	3	0	1	0	0	0	0	0	0	0	0	0	4	0	GP confirmed as zircon; GO confirmed as spessartine
481	0	0	0	0	0	0	1	0	0	0	0	0	1	0	IM confirmed as crustal
489	0	0	0	0	0	0	1	0	1	1	0	0	2	1	IM confirmed as crustal; CR - overlap field
495	0	0	1	0	1	0	1	0	1	0	0	0	4	0	IM confimed as crustal; GO confirmed as spessartine; CD- Cr poor - not KIM
505	2	0	0	0	0	0	5	0	0	0	0	0	7	0	GP confirmed as zircon; IM confirmed as Fe-oxide
515	0	0	0	0	0	0	2	0	0	0	0	0	2	0	IM confirmed as crustal

Table 1: Quality control picking (p) and confirmation (c) results (see Appendix E (this report and MRD 72) for geochemical analyses of overlap chromites and crustal ilmenites). GP-purple garnet; GO-orange garnet; CD-chrome diopside; IM-ilmenite; CR-chromite; FO-forsteritic olivine; KIMs-kimberlite indicator mineral.

that parallels the 'lherzolite trend'. This line is best described as the 'diamond in' line and separates G10 garnets to the left and G9 garnets to the right. Harburgitic garnets fall predominantly within the G10 field and are classified as such, however, high-pressure lherzolitic garnets can plot in this field and are also classified as G10s. Similarly, low-pressure harzburgitic garnets can fall within the G9 field, which is primarily dominated by lherzolitic garnets. Given that garnet harzburgite has greater diamond potential than garnet lherzolite, G10 garnets, with compositions that scatter well across the sub-calcic field, are the most important garnet indicators an exploration program can recover (Gurney and Zweistra 1995). Very high diamond potential is indicated by G10s that are <2.5 wt % CaO and >6 wt % Cr_2O_3 (Fipke et al. 1995). Additionally, peridotitic garnets can be classified according to a J-Factor scale (Lee 1993). On a CaO/Cr_2O_3 plot, the areas defining G9/G10 garnets have been divided into 10 zones ranging from J1to J10 to assist in rating diamond potential. The lower end of the scale, J1, represents G9 garnets, whereas a J10 garnet is a highly Cr-enriched and Ca-depleted G10 garnet representing the best indication of diamond potential.

A division of 2 wt % Cr_2O_3 separates peridotitic garnets from eclogitic and crustally derived garnets, with the peridotitic garnets being Cr-enriched. Eclogitic garnets, indicative of eclogite sourced mantle material can be differentiated from crustal garnets using FeO and MnO contents. Typically eclogitic garnets are <22 wt % FeO and <0.5 wt % MnO compared to crustally derived garnets which are Fe- and Mn-enriched (Schulze 1999).

Eclogitic garnets can be classified as originating from 2 kinds of eclogite: Group I eclogite and Group II eclogite (Schulze 1993, 1999; McCandless and Gurney 1989). Generally, only Group I eclogites are considered to be diamond bearing. Garnets from these eclogites display values of > 0.07 wt % Na_2O indicating equilibrium at high pressures compatible with diamond stability (Schulze 1999, 1993; Fipke et al. 1995; Gurney 1984), however, this threshold should not be strictly used as graphite bearing eclogitic garnets show similar values (Gruetter and Quadling 1999). Megacrystic garnets can also have > 0.07 wt % Na_2O, but TiO_2 and CaO contents can be used to distinguish the two. On plot of Na_2O/TiO_2, Group I eclogitic garnets are Na-enriched, Group II eclogitic garnets are Ti- and Na-depleted and megacrystic garnets are Ti-enriched (Schulze 1999). On a CaO/Na_2O plot, the megacrystic garnet field is defined at low CaO and Na_2O values (Fipke et al. 1995). An overlap between lherzolitic garnets and megacrystic garnets can occur at low Cr values (<4 wt % Cr_2O_3). However, Cr-depleted lherzolitic garnets will not be Ti-enriched, a characteristic of megacrystic garnets which generally have TiO_2 values > 0.4 wt % (Schulze 1999).

A total of 882 garnets were recovered from heavy mineral processing and sent for microprobe analysis. Geochemical classification determined the following distinctions: 25 G10 pyropes; 534 G9 pyropes; 38 Group II eclogitic garnets; 169 Cr-poor megacrysts; 5 andradites; 1 uvarovite; and 110 crustal garnets. Figure 10 shows all grain compositions plotted on a CaO/Cr_2O_3 graph (G10 grains labelled with sample numbers are summarized in Figure 11). Scattered reasonably well across the Ca-depleted side, G10 garnets extend to J4 and J5 fields (Figure 12). However, the G10s are low to moderately Cr-enriched and not as favourable as G10s that plot in the J9 or J10 fields, indicative of very high diamond potential. Chemical compositions of different garnet types are compared on the following graphs illustrating the classification process: G9 and megacrystic garnets on a Cr_2O_3/TiO_2 plot (Figure 13); eclogitic

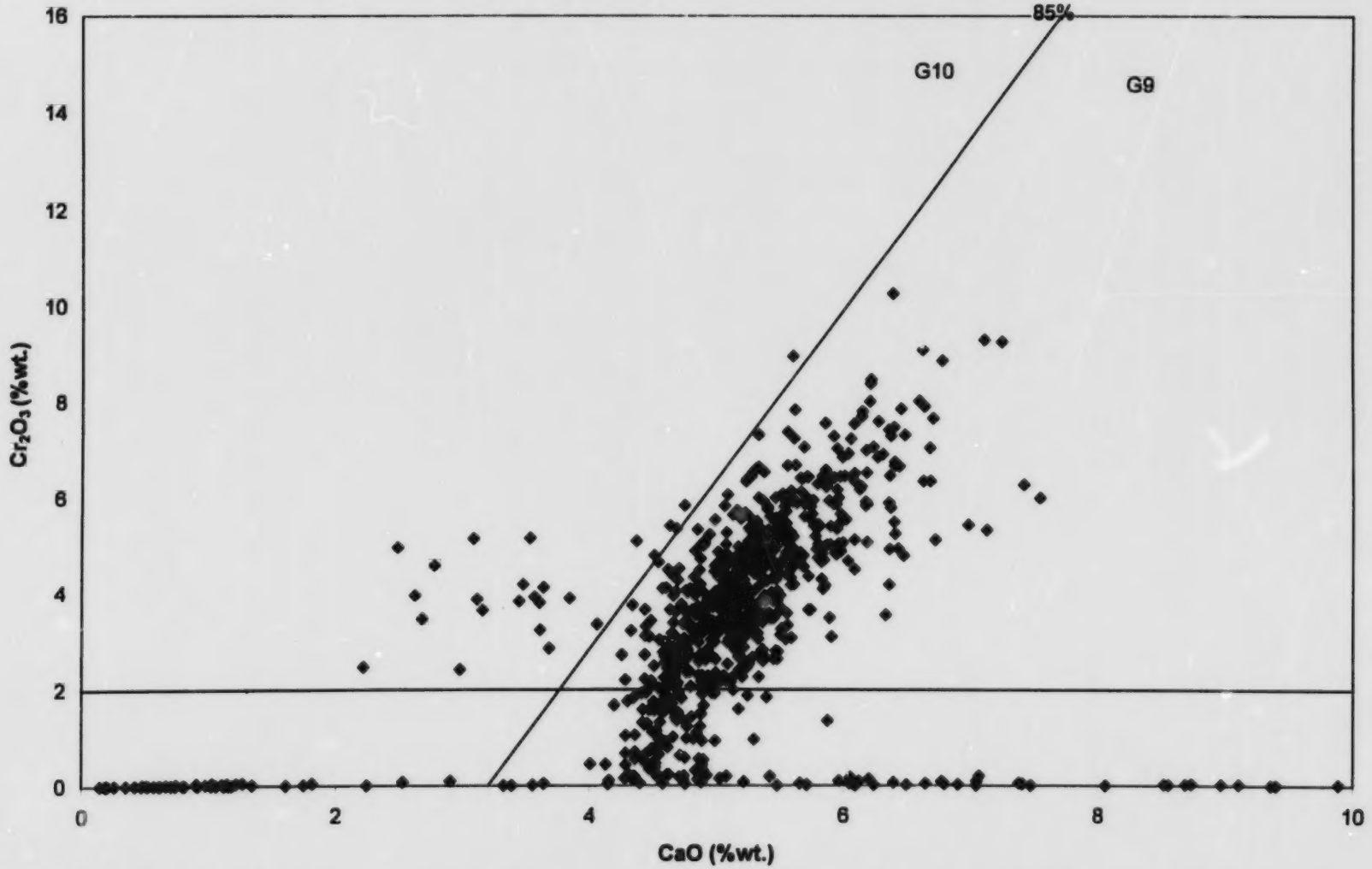


Figure 10: CaO/Cr_2O_3 plot of all garnets recovered from the survey area. For G10 sample labels, refer to Figure 11 which displays an expanded view of the field. (After Dawson and Stephens 1975).

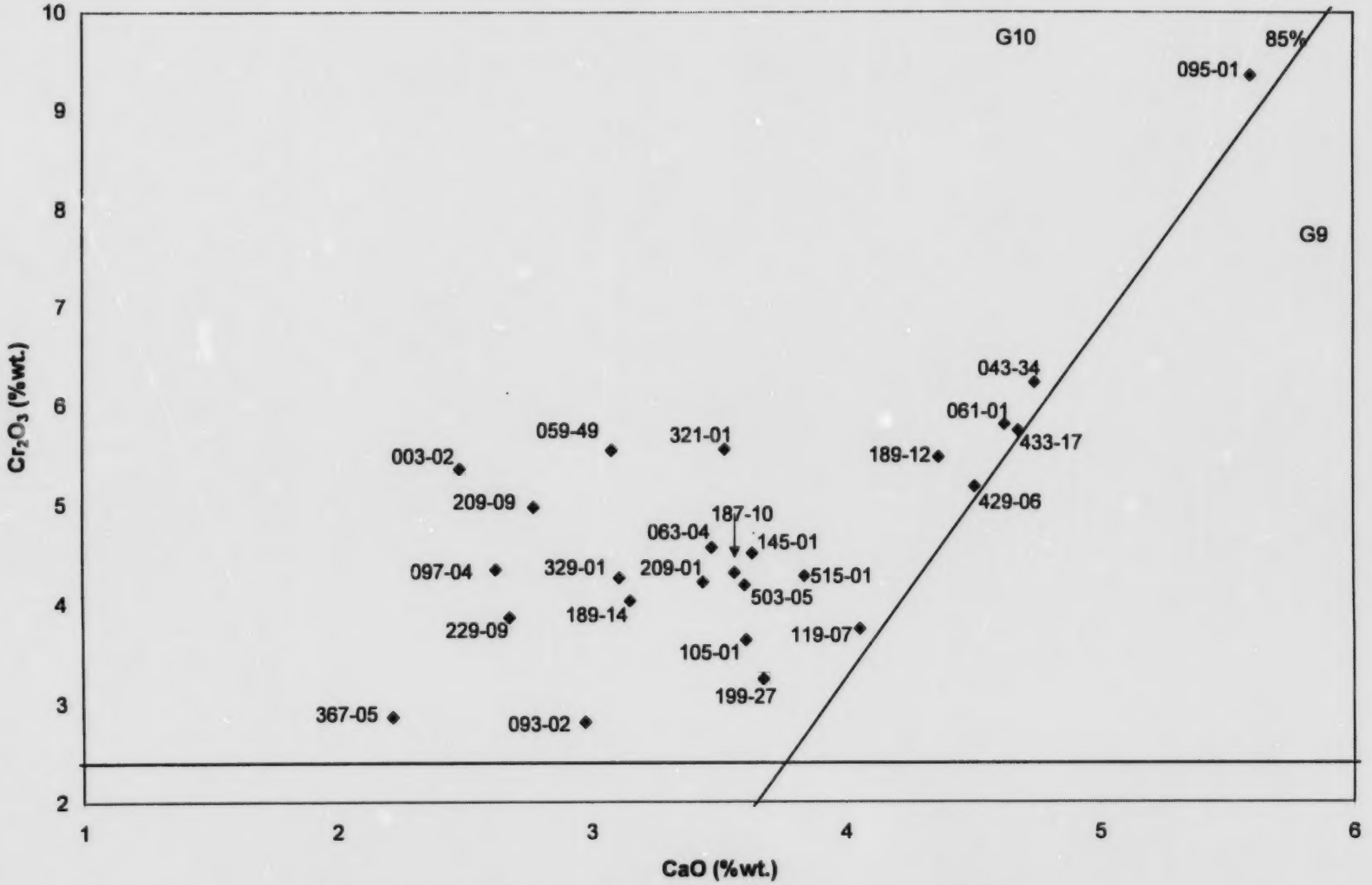


Figure 11: Expanded view of G10 garnet field showing sample labels

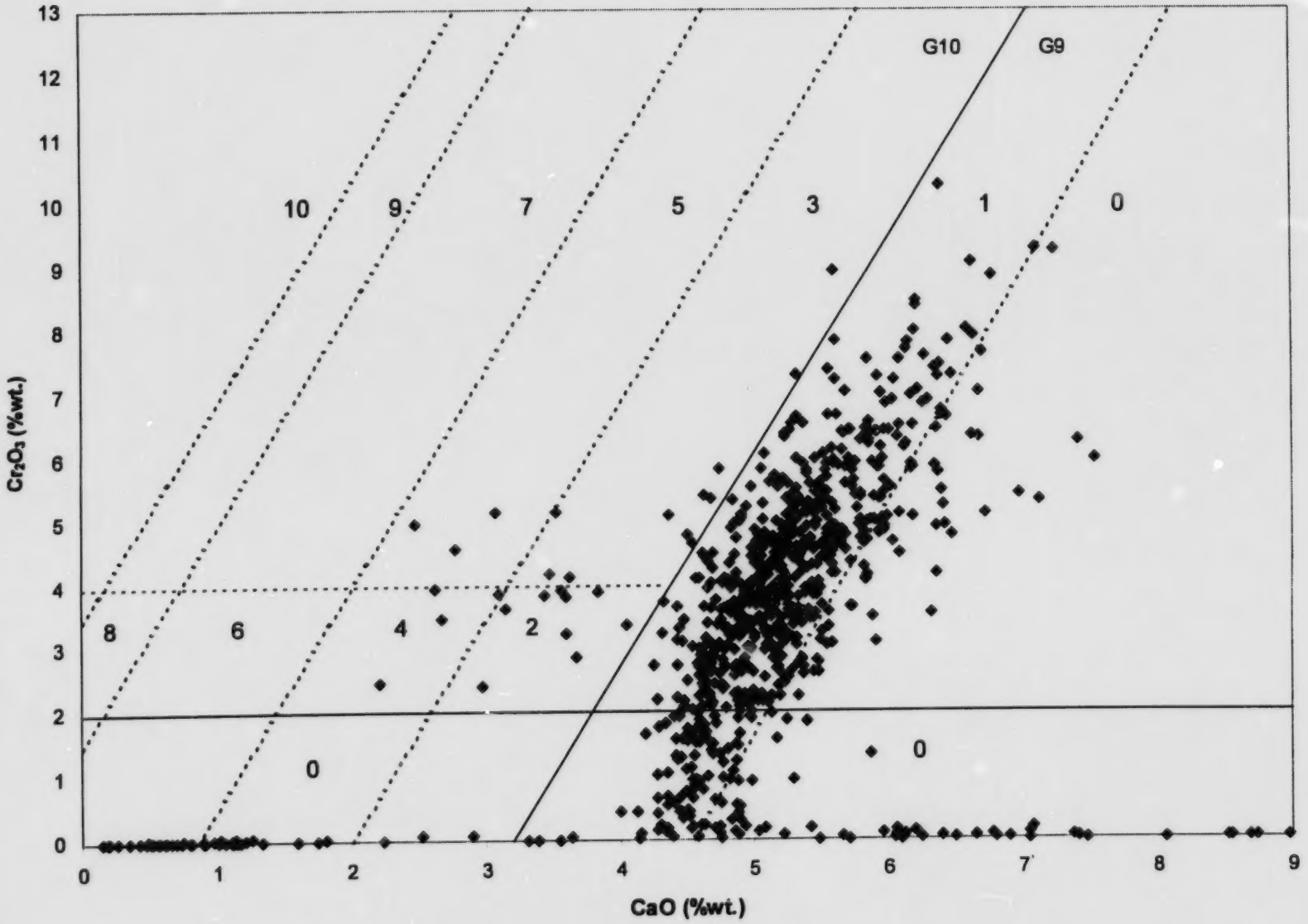


Figure 12: J-factor classification of all garnets (after Lee 1993).

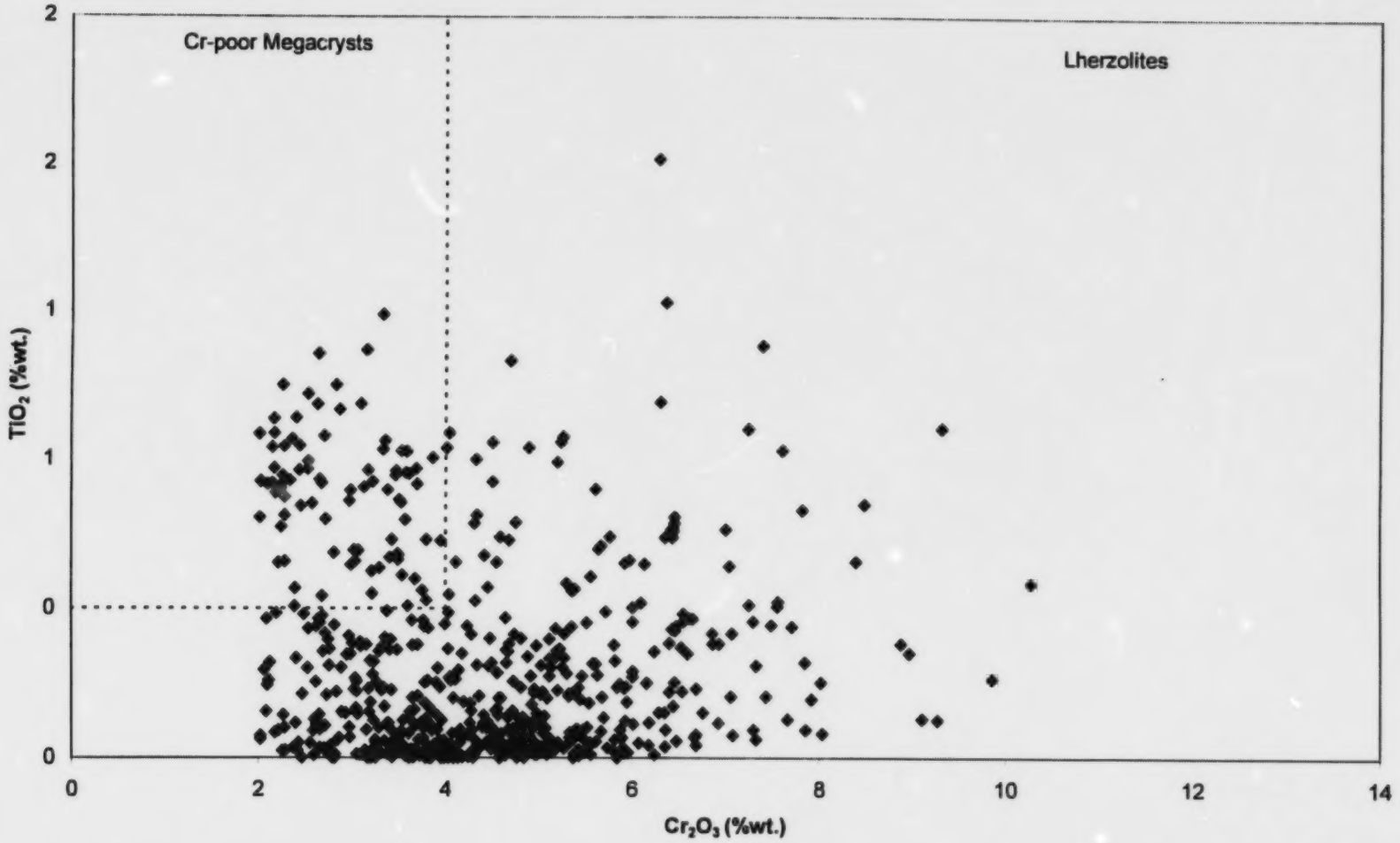


Figure 13: Cr_2O_3/TiO_2 plot showing lherzolitic garnets and Cr-poor megacrysts from the study area (after Schulze 1999)

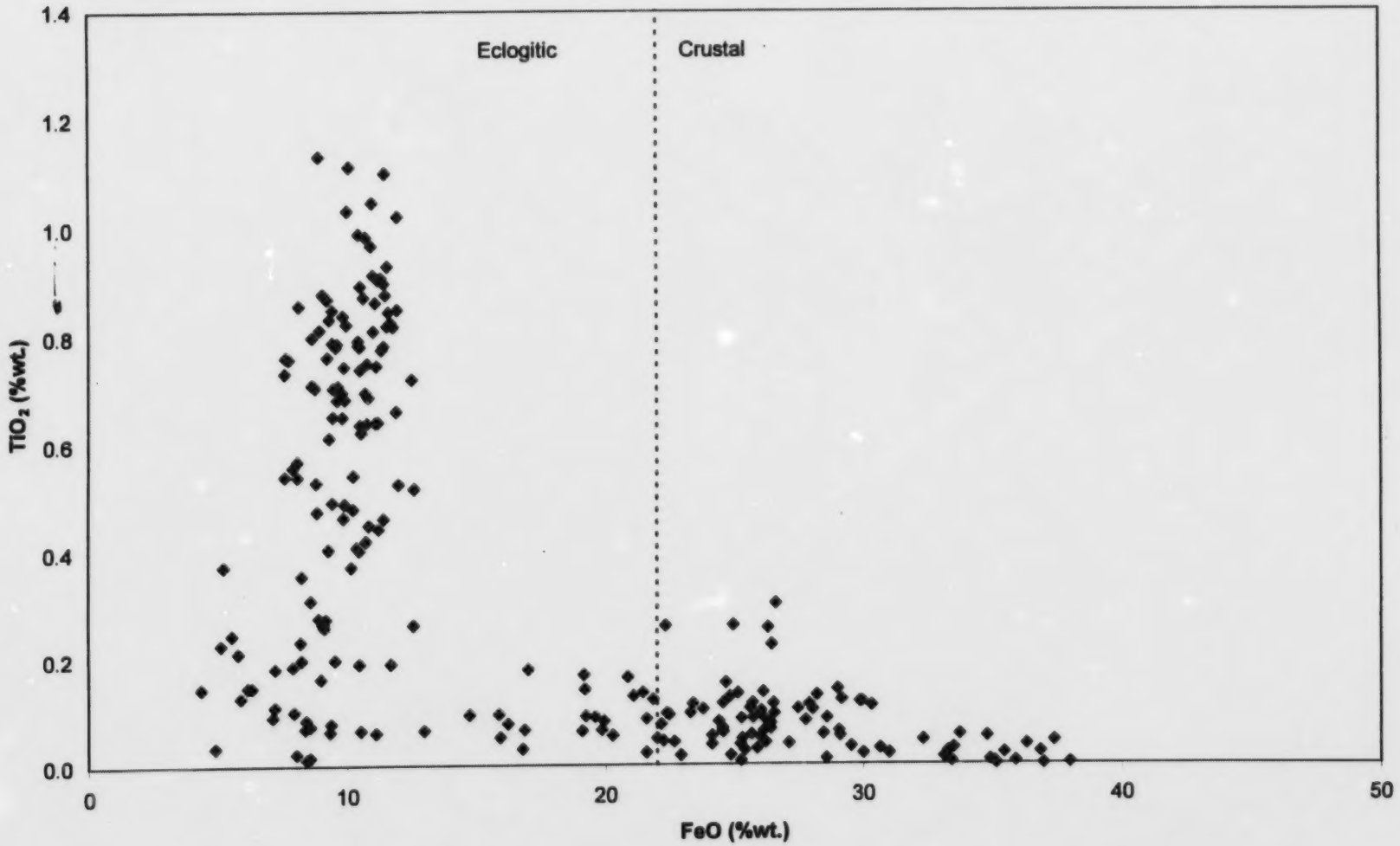


Figure 14: FeO/TiO_2 plot showing eclogitic and crustal garnets from the study area (after Schulze 1999)

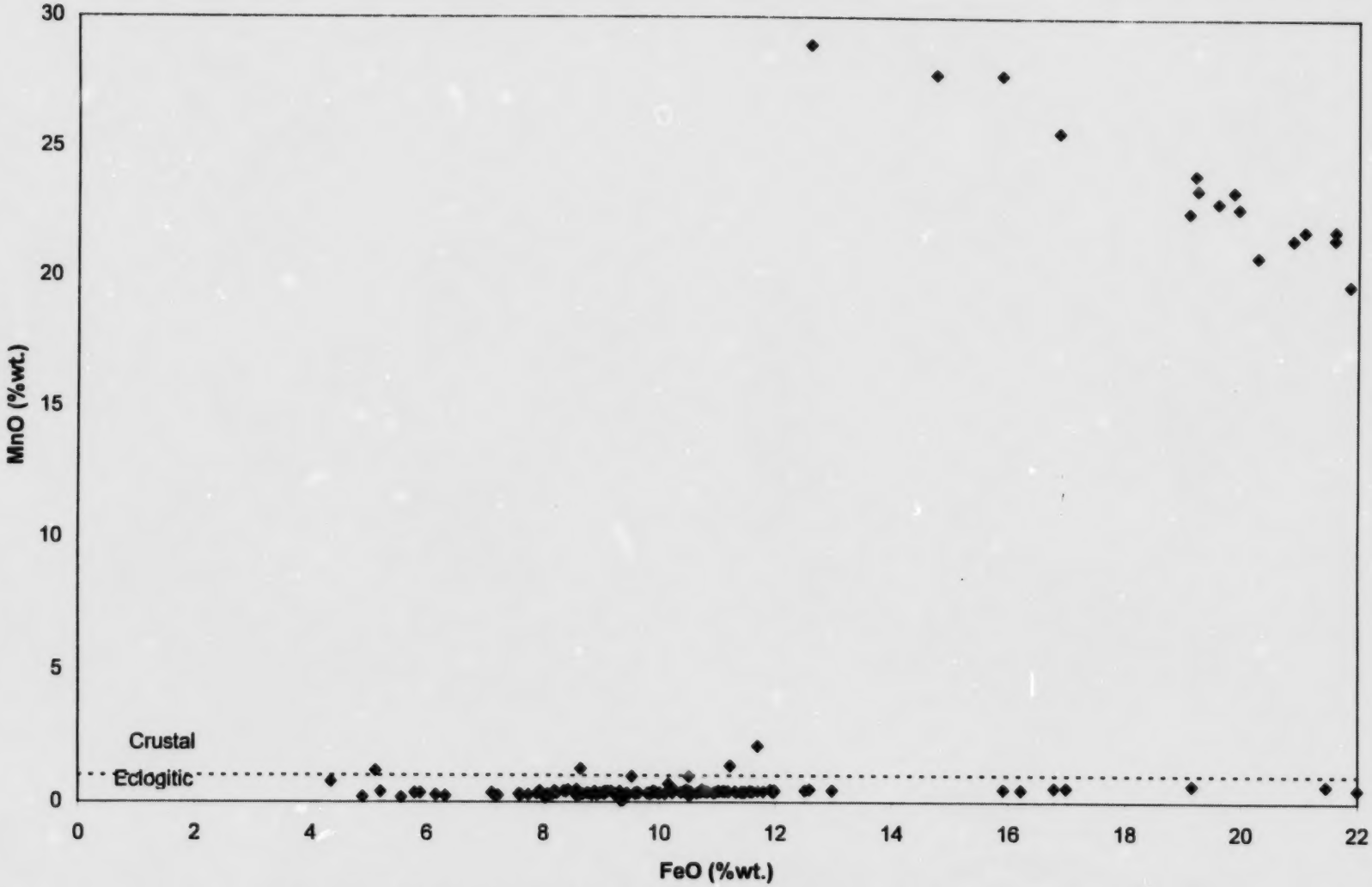


Figure 15: FeO/MnO plot showing eclogitic and crustal garnets from the study area.

and crustal garnets on a FeO/TiO_2 plot (Figure 14); eclogitic and crustal garnets on a FeO/MnO plot (Figure 15); Group I and II eclogitic garnets and megacrysts on a Na_2O/TiO_2 plot (Figure 16); eclogitic and megacrystic garnets on a Na_2O/CaO plot (Figure 17).

The presence of Group II eclogitic garnets (ECLs) and the lack of Group I ECLs does not necessarily indicate lower diamond potential. It merely suggests that the eclogite source rocks sampled were likely not diamond bearing. However, the greater than average background signature of G10 garnets obtained indicates that the source peridotite was potentially diamond bearing. The KIM garnet signature for the study is predominantly peridotitic in nature, as evidenced by the numerous G9s recovered. Therefore, it can be inferred that any kimberlites or related rocks that may possibly exist in the region sampled more mantle derived peridotite than eclogite.

The regional occurrence of G10s, G9s, Group II ECLs and Cr-poor megacrysts are summarized in Figures 18, 19, 20 and 21 respectively. In Figure 18, G10s are well distributed across the study area, mainly in concentrations of 1 grain per sample, only samples 189 and 209 contain 2 grains. Although the distribution of G9 garnets results in less anomalies, the number of grains per site increases significantly, enhancing coincident G10 anomalies (samples 55, 59, 187, 189, 433). Group II ECLs are rare within the study area as only 2 anomalies were identified (samples 55 and 97). The majority of the samples that contain ECLs additionally contain G10s and/or G9s. The distribution of Cr-poor megacrystic garnets reflects that of G9 garnets with corresponding anomalies (samples 5, 11, 57, 135, 137, 431, 433, 492).

Chromites

Similar to garnet, chromites are used to determine the amount of chromite harzburgite sampled and disaggregated by the kimberlite (Fipke et al. 1995; Gurney and Moore 1993). Of specific interest is the Cr content of chromite as it increases with temperature and pressure and is less mobile than Mg or Fe during chromite re-equilibration after diamond formation. Therefore, Cr is the most significant indicator of diamond potential in chromites (Griffin et al. 1994; Gurney and Zweistra 1995). Chromites have been classified for diamond exploration purposes into diamond inclusion and intergrowth chromites (DI chromites) and high content Cr-Ti chromites (Fipke et al. 1995; Griffin et al. 1994). The high Cr_2O_3 (>61wt %, Gurney 1984) and MgO (>10wt %, Fipke et al. 1995) content of DI chromites distinguishes them from crustally derived chromites. Additionally, a Cr_2O_3/TiO_2 plot is useful in isolating the Cr-Ti chromites unique to kimberlites and lamproites, which are typically >0.8 wt %TiO_2. As well, it excludes chromites that are not characteristic of kimberlite or lamproite (Fipke et al. 1995). However, an overlap does exist and chromites plotting within this field may be considered as possible kimberlite indicator minerals. Determining which of these groupings dominate chromite populations recovered from an exploration program is crucial to interpreting diamond potential.

Of the 603 chromites analysed: 8 were determined to be diamond inclusion/intergrowth chromites (DIs); 20 to be unique to the kimberlites and lamproites; 559 of possible kimberlitic affinity; and 16 were not kimberlitic or lamproitic. Figures 22, 23 and 24 show MgO/Cr_2O_3 and TiO_2/Cr_2O_3 plots of chromite compositions respectively. Grains 027-12 and 211-11 do not fall within the diamond inclusion or intergrowth fields on the MgO/Cr_2O_3 graph but do plot inside

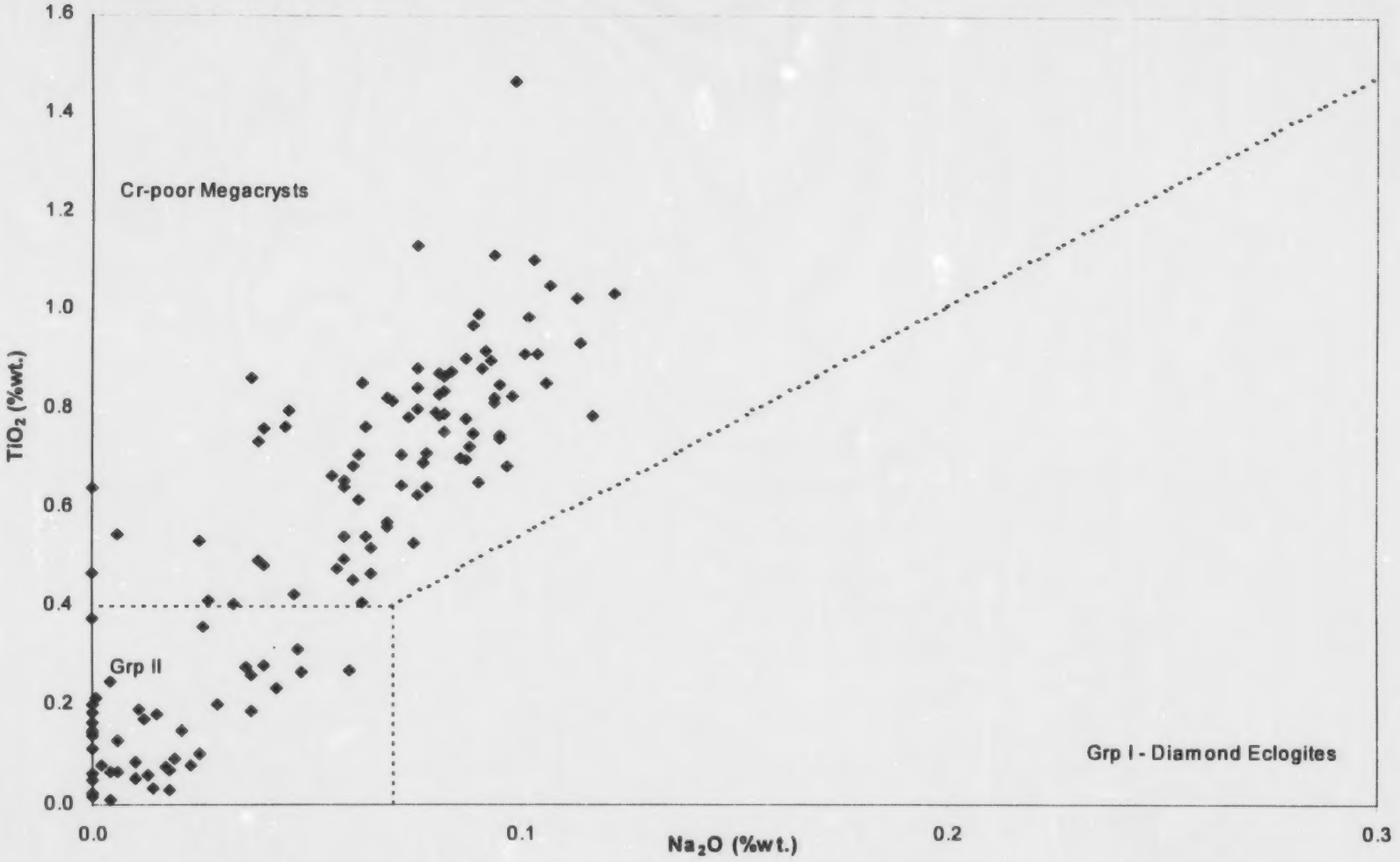


Figure 16: Na_2O/TiO_2 plot showing Group I and II eclogitic garnets and Cr-poor megacrystic garnets from the study area (after Schulze 1999)

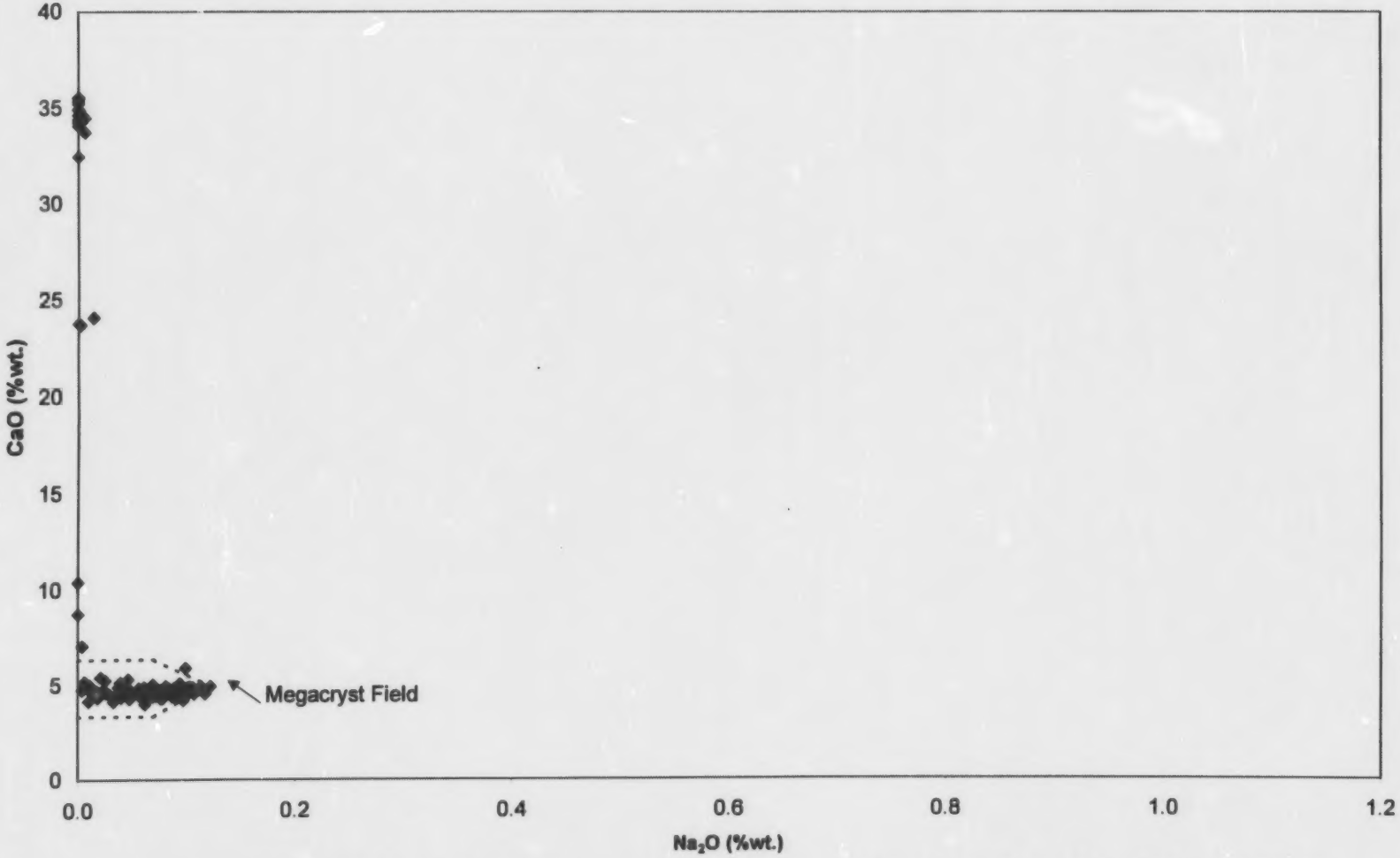


Figure 17: Na_2O/CaO plot showing the megacrystic field of garnets from the study area (after Fipke et al. 1995)

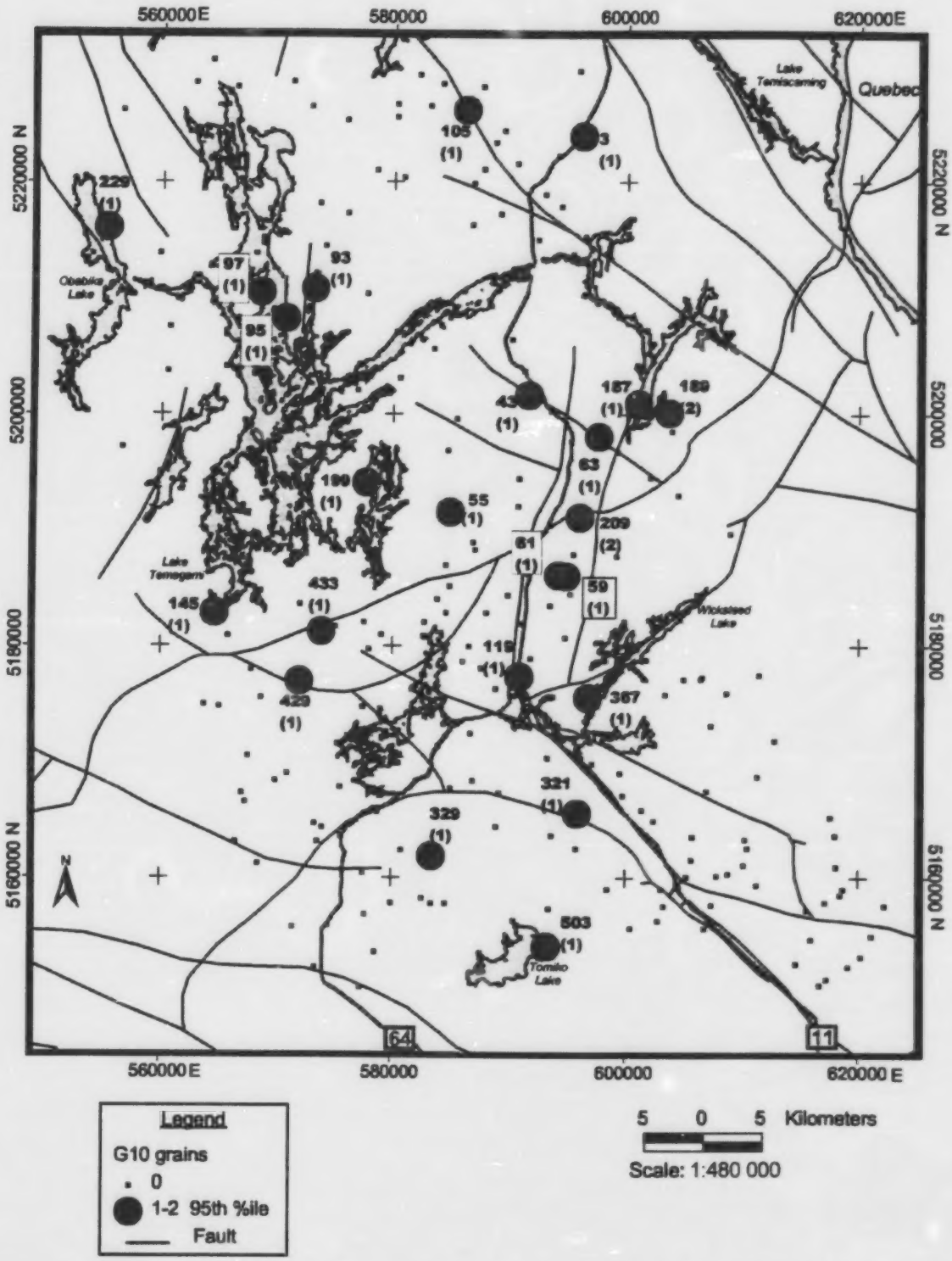


Figure 18: Regional distribution of G10 grains. Anomalous sites are labeled with the corresponding number of grains shown in brackets.

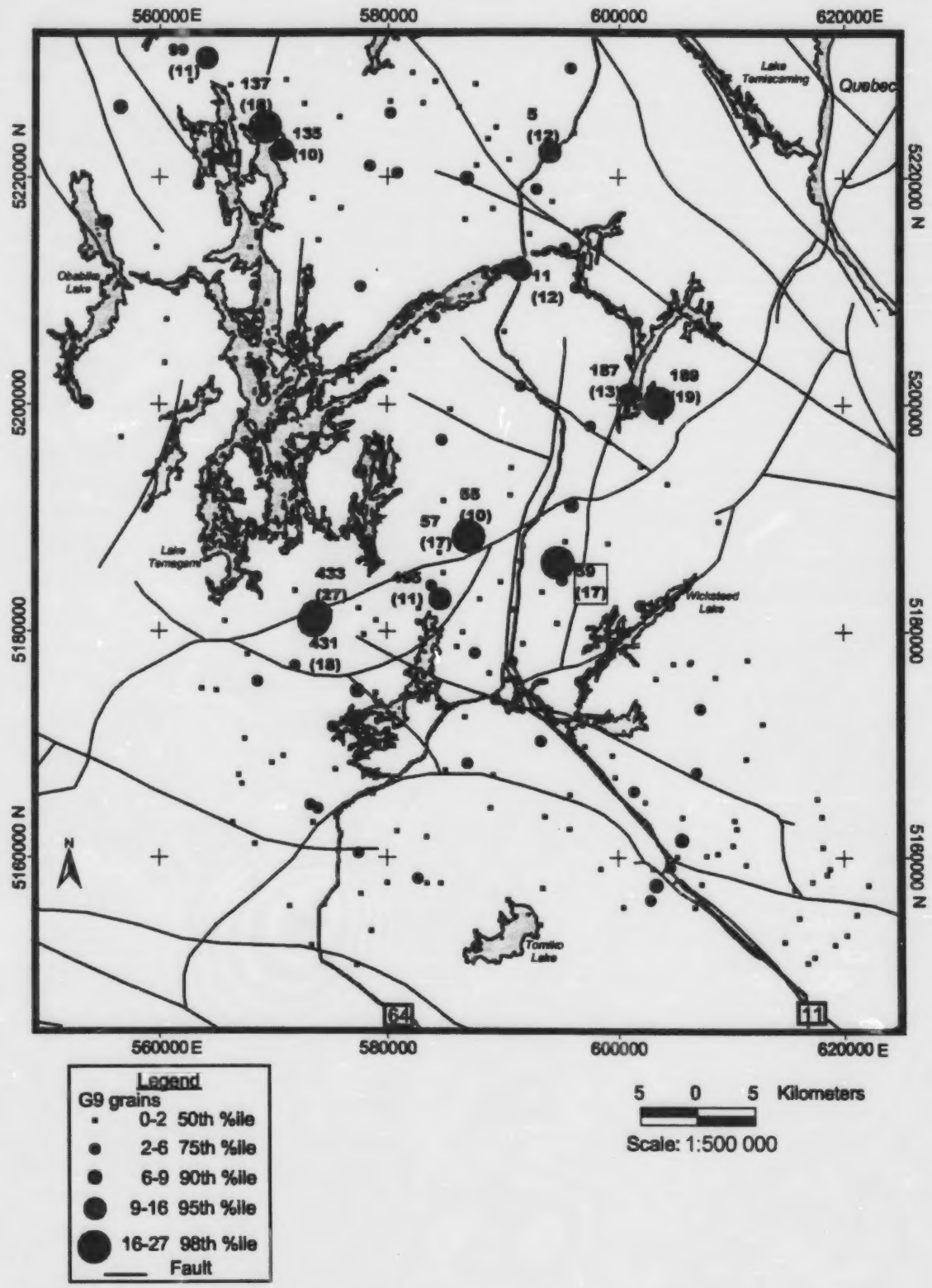


Figure 19: Regional distribution of G9 grains. Anomalous sites are labeled with the corresponding number of grains shown in brackets.

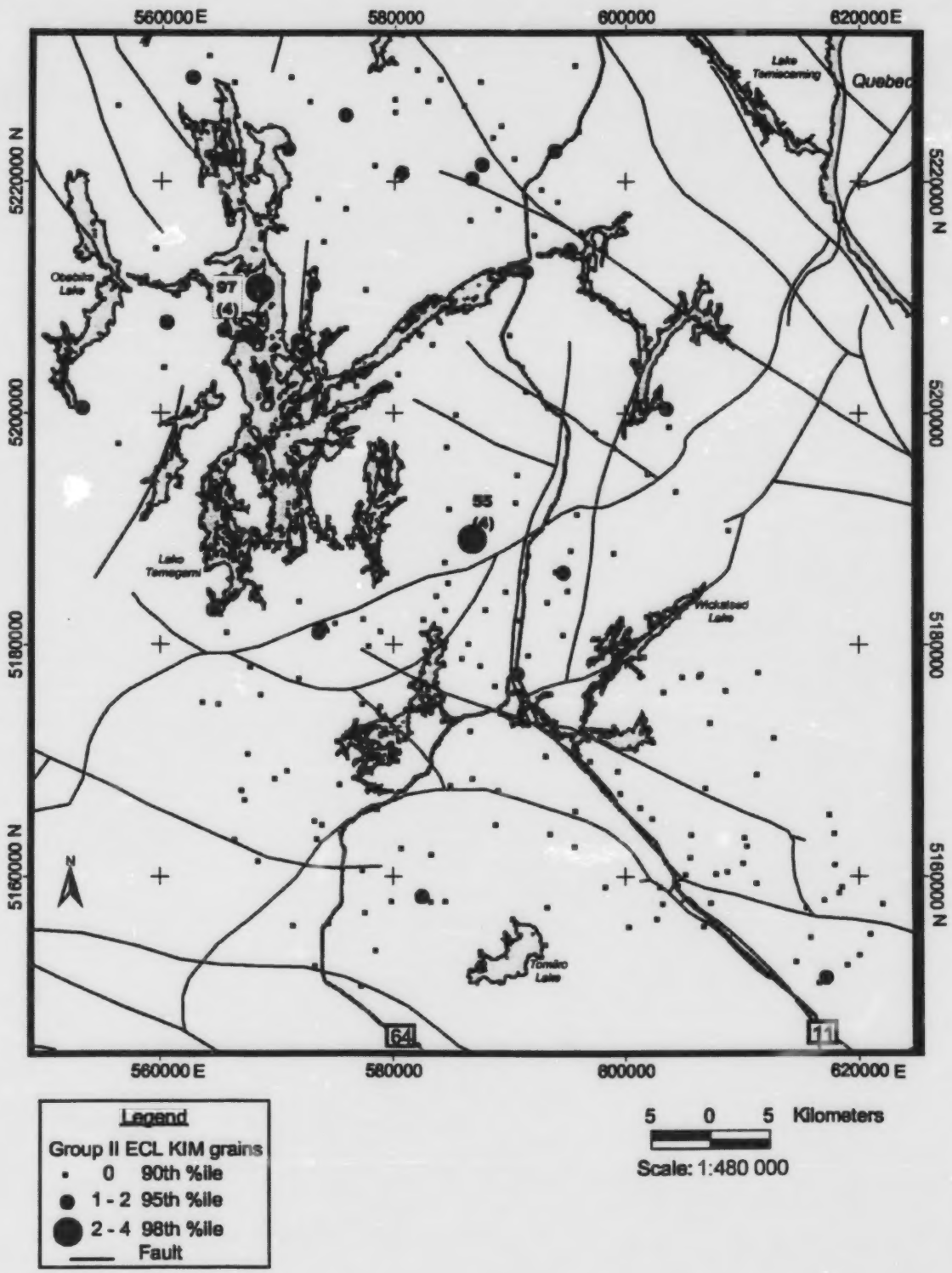


Figure 20: Regional distribution of Group II eclogitic garnet grains. Anomalous sites are labeled with the corresponding number of grains shown in brackets.

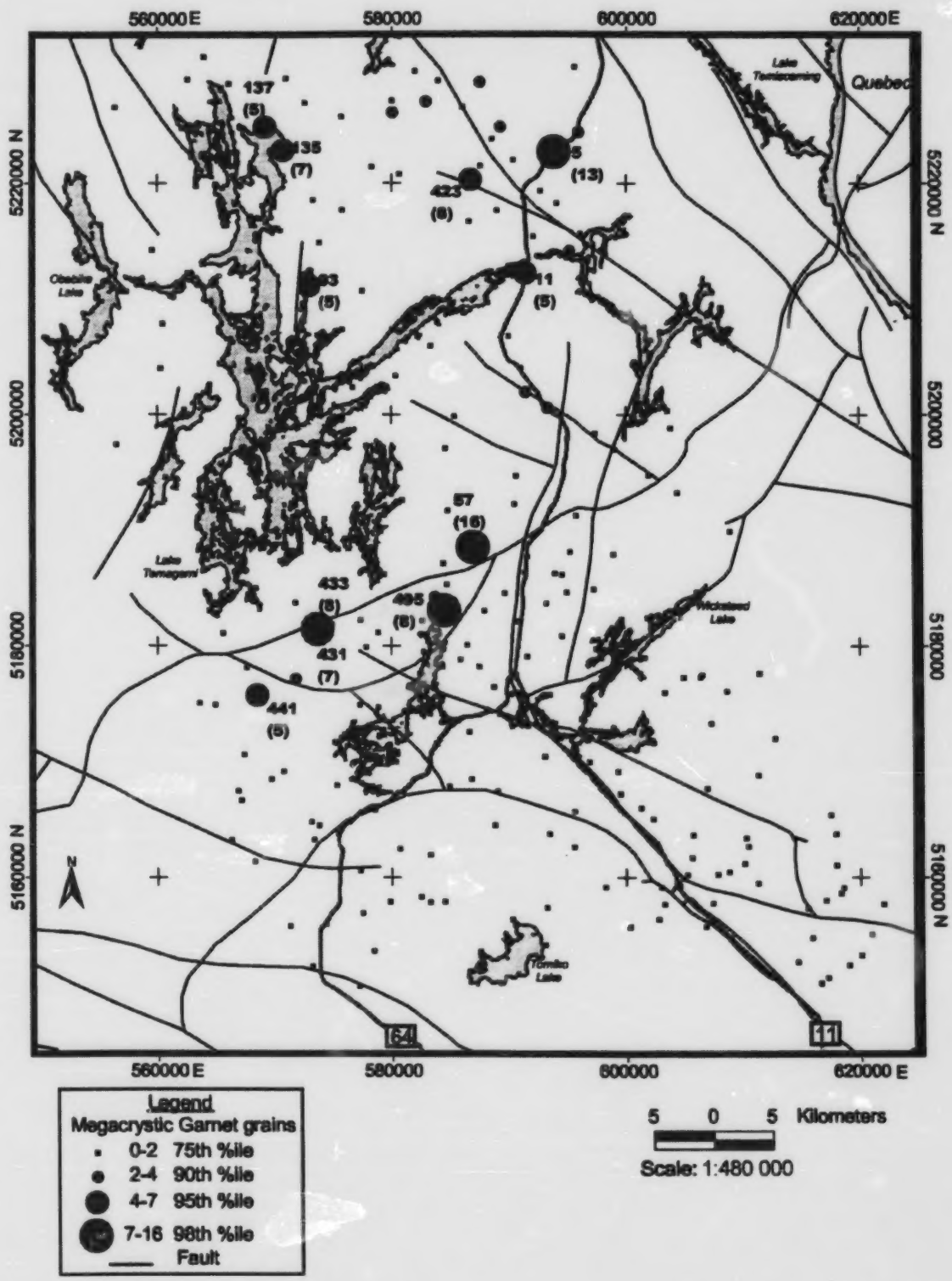


Figure 21: Regional distribution of Cr-poor megacrystic garnet grains. Anomalous sites are labeled with the corresponding number of grains shown in brackets.

the field on the TiO_2/Cr_2O_3 graph and therefore are classified as such. Similarly, grains 267-05, 093-32 and 097-22 plot within the diamond inclusion/intergrowth field on the $MgO/Cr_2O_{3\ plot}$ but not on the TiO_2/Cr_2O_3 plot. These grains are also considered to be kimberlitic, and DI chromites. The 559 chromites that fall in the overlap field may be derived from kimberlite or related rock sources, however, cannot be classified definitively as kimberlitic and are treated here as possible KIMs.

Samples that required picked estimate normalization are summarized in Table 2. The regional distribution of DI chromites, total KIM chromites and total chromites including those belonging to the overlap field and therefore of possible kimberlitic affinity are displayed in Figures 25, 26 and 27 respectively. From these figures it can be seen that by including overlap field chromite distribution of anomalous sites is altered. In Figure 27, samples 119, 137, 145, 441and 443, which include overlap field chromites, fall within the 98th or 95th percentile while in Figures 25 and 26 they are not considered anomalous samples sites. This observation indicates that caution should be exercised when interpreting results that include overlap field chromites. In this survey, all of the possible KIM chromite anomalies do contain other KIMs, and it can be inferred with some confidence that these chromites are of kimberlitic affinity. The author attempted to locate chromite chemistry data of local bedrock derivation for comparison, however, little mineral chemistry except whole rock analyses, is published and available.

Sample number	tot CR p	tot CR p(e)	tot KIM CR c	Picked estimate normalization			
				tot (c) KIM CR	DI CR	Unique field CR	Overlap field CR
27	19	30	21	33	2	0	31
69	11	12	7	8			8
93	37	62	37	62		2	60
99	9	20	8	17		4	13
119	31	100	26	84			84
137	70	400	56	320			320
243	6	10	3	5			5
423	20	35	16	29		2	27
431	10	15	12	18		3	15
441	29	54	28	52			52
443	9	20	5	14			14
489	12	21	4	7			7

Table 2: Summary of samples that required picked estimate normalization with respect to chromites. (CR-chromites; p-picked; p(e)- picked estimate; c- confirmed; DI-diamond inclusion.)

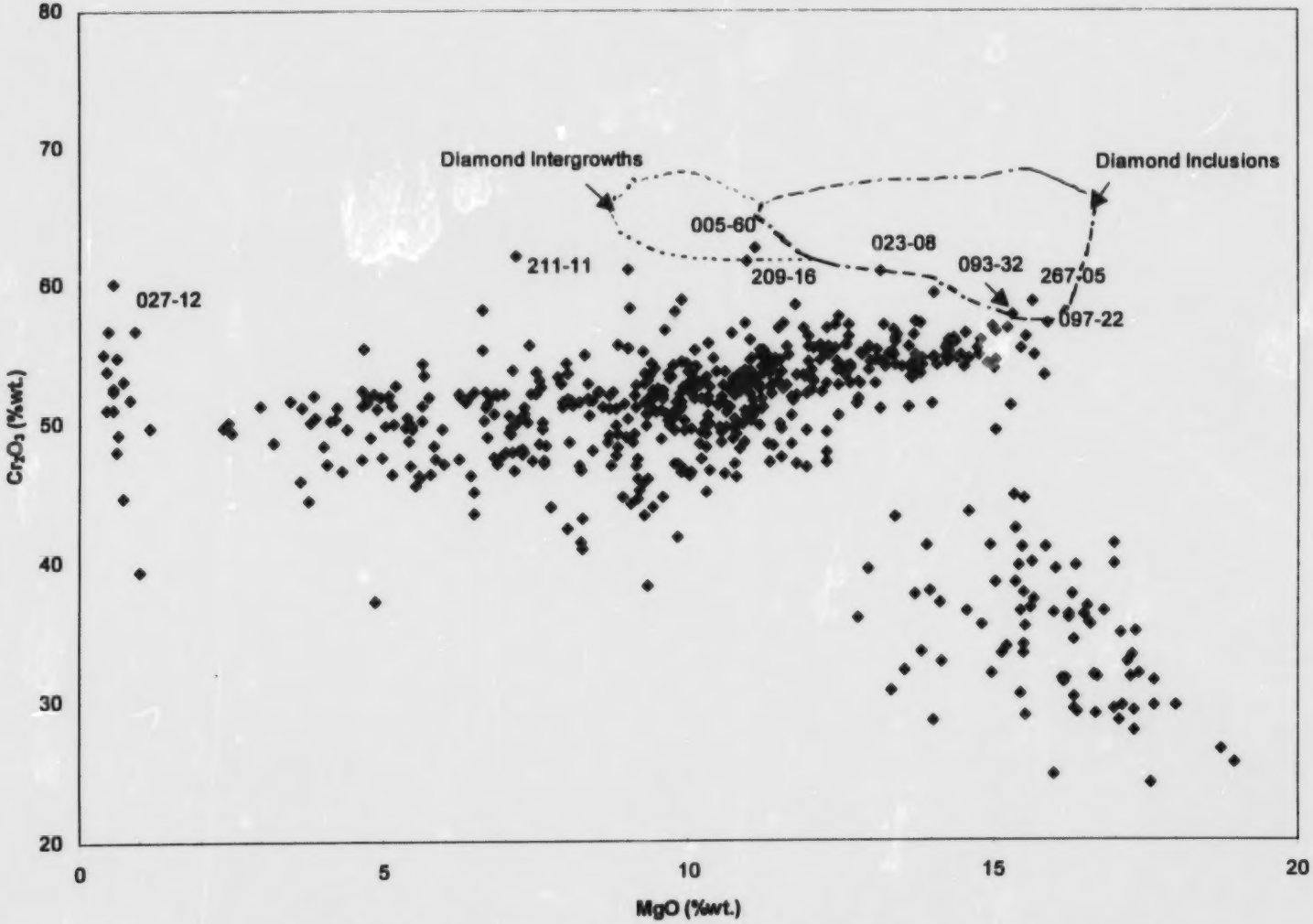


Figure 22: MgO/Cr_2O_3 plot of all chromites recovered from the study area (after Fipke et al. 1995).

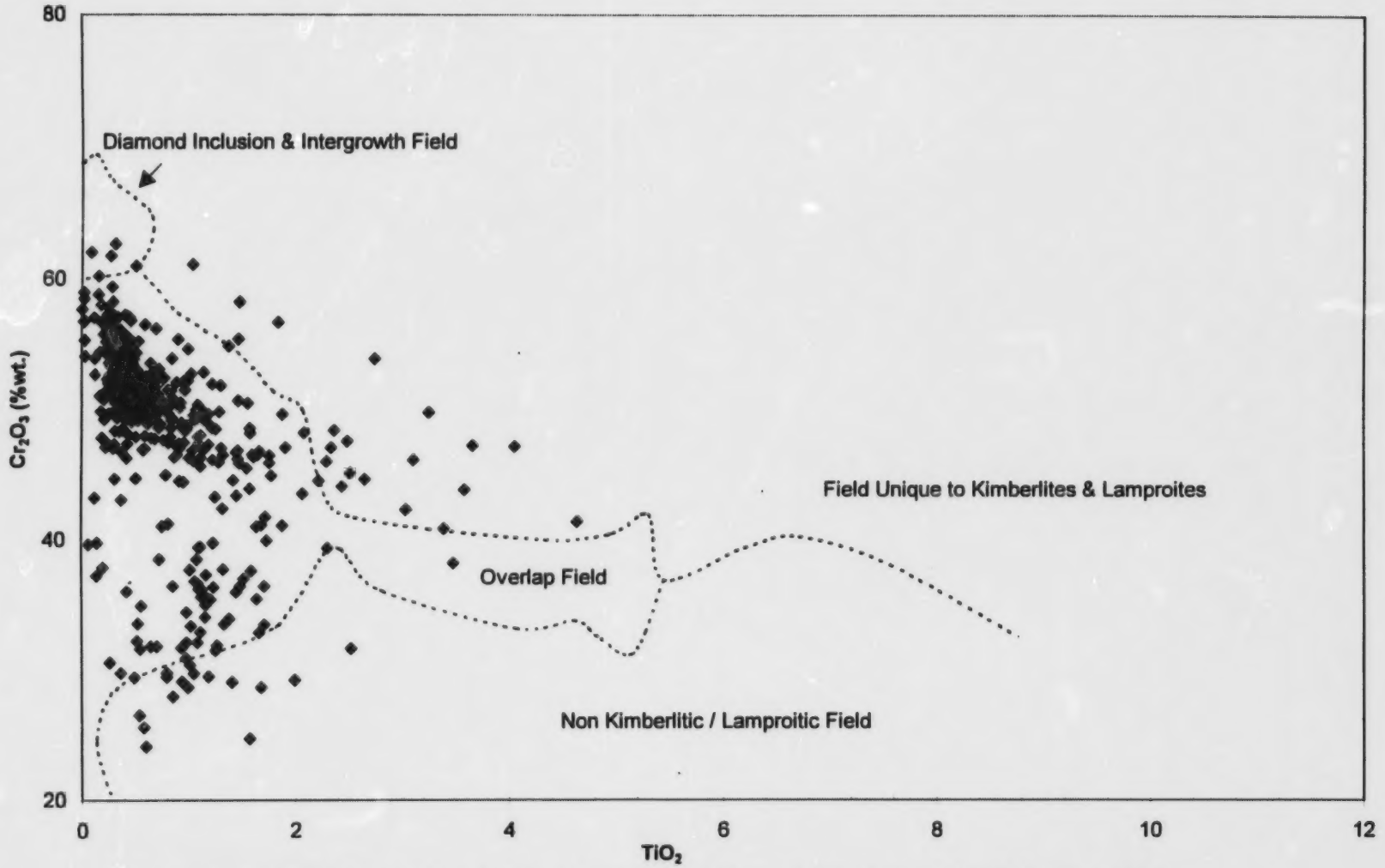


Figure 23: TiO_2/Cr_2O_3 plot of all chromites recovered from the study area (after Fipke eta l. 1995). DI and unique field chromites are labeled in Figure 24.

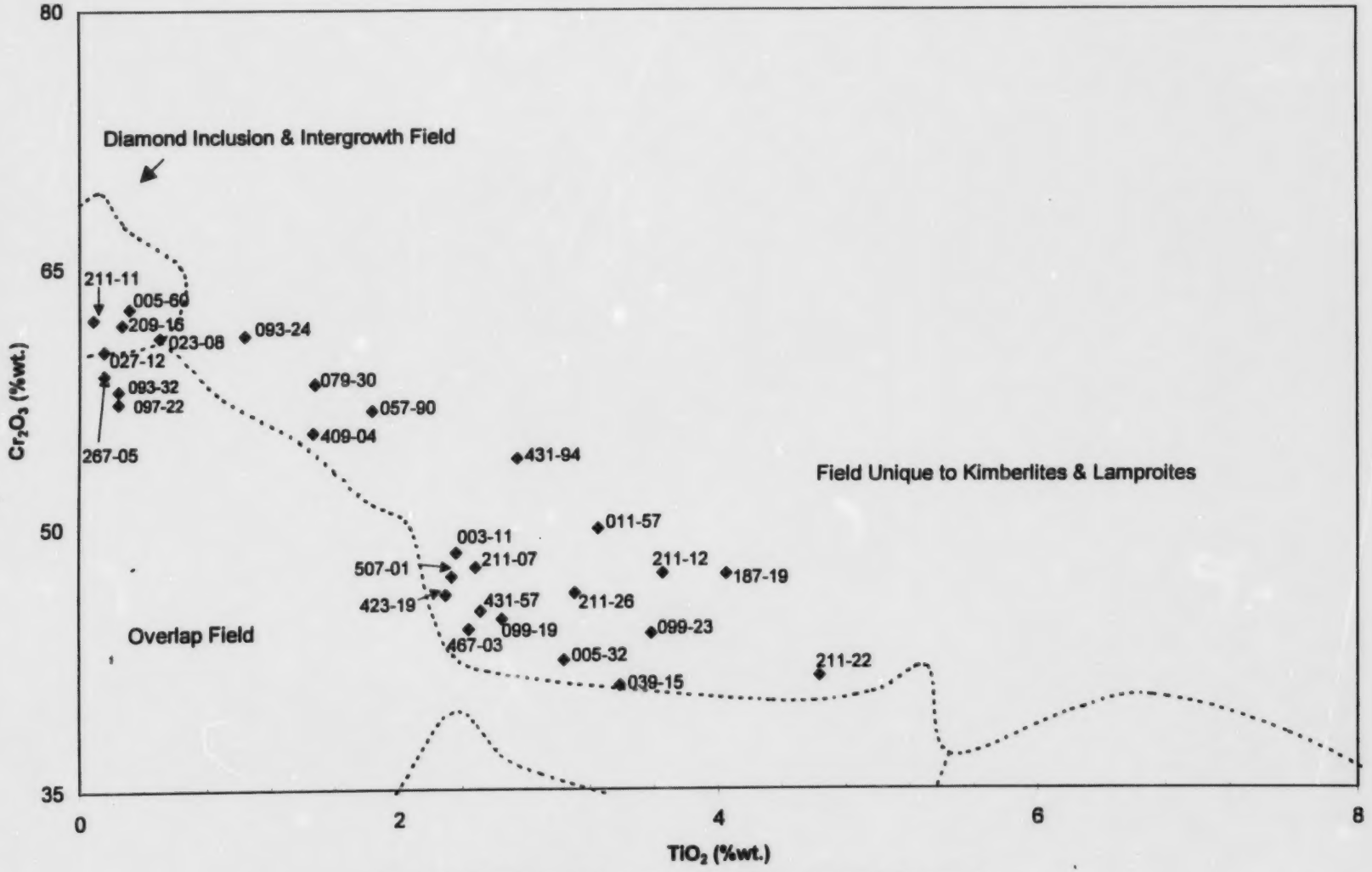


Figure 24: TiO_2/Cr_2O_3 plot showing labeled DI and unique field chromites.

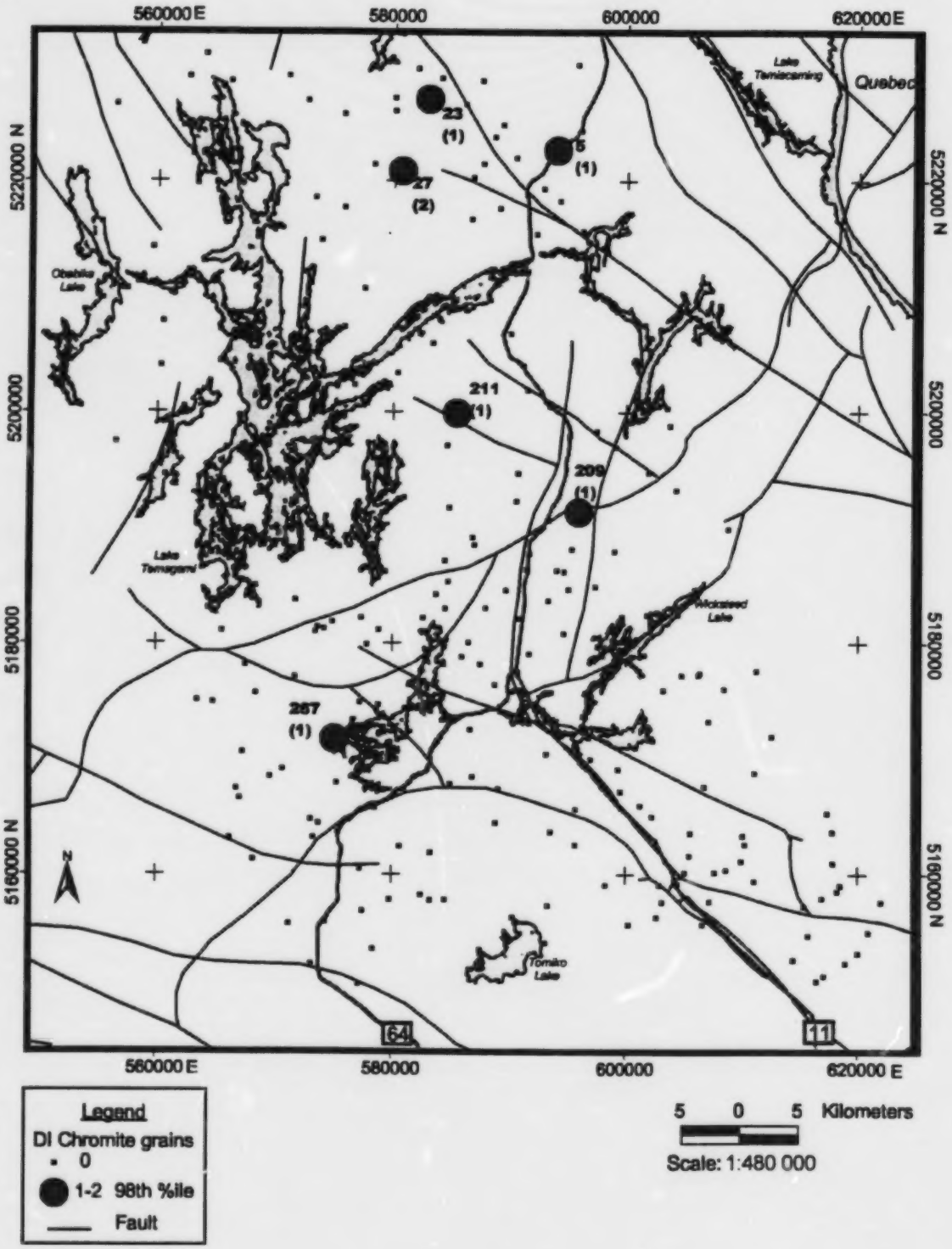


Figure 25: Regional distribution of DI chromite grains. Anomalous sites are labeled with the corresponding number of grains shown in brackets.

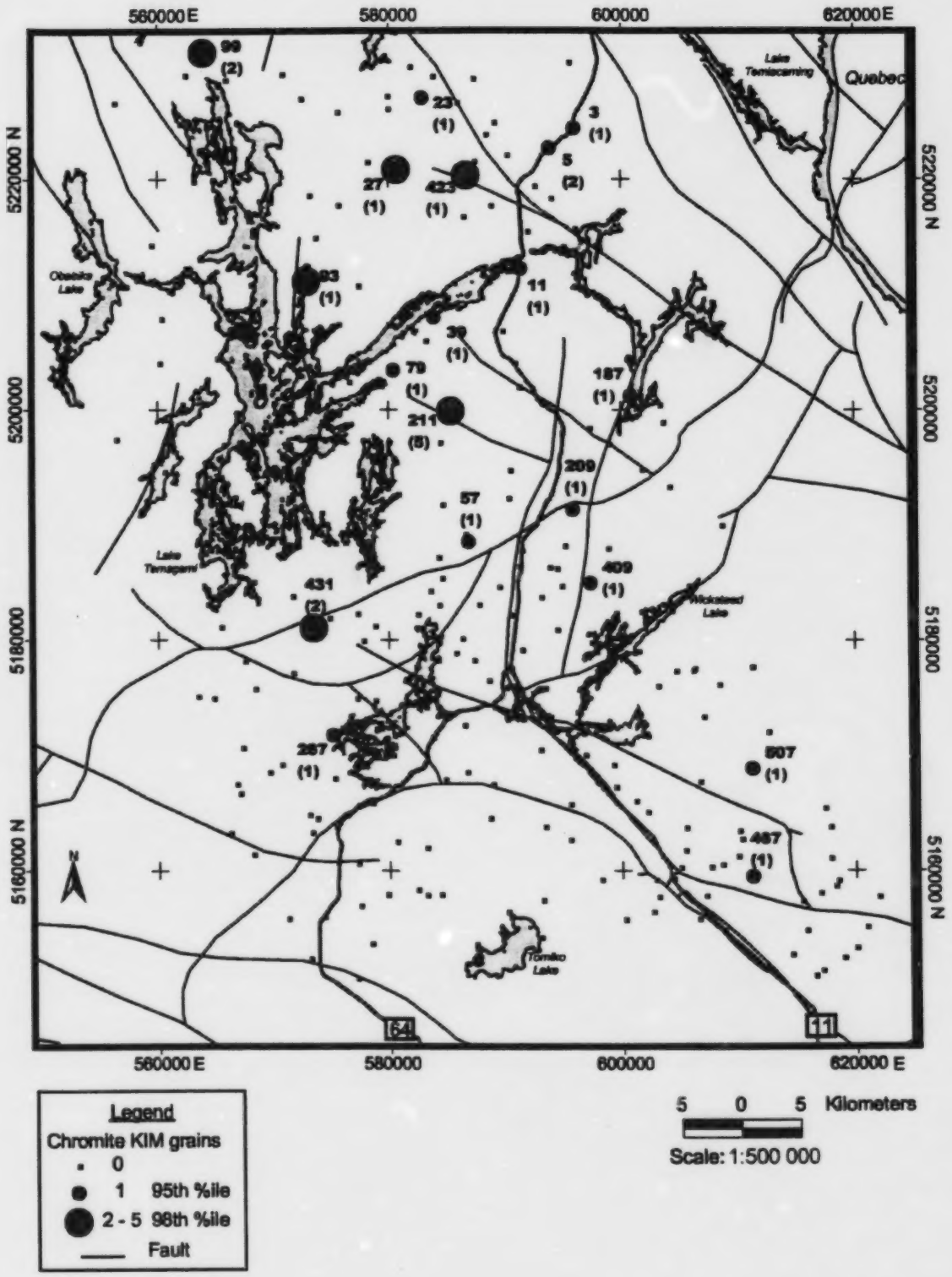


Figure 26: Regional distribution of chromite KIM grains. Anomalous sites are labeled with the corresponding number of grains shown in brackets

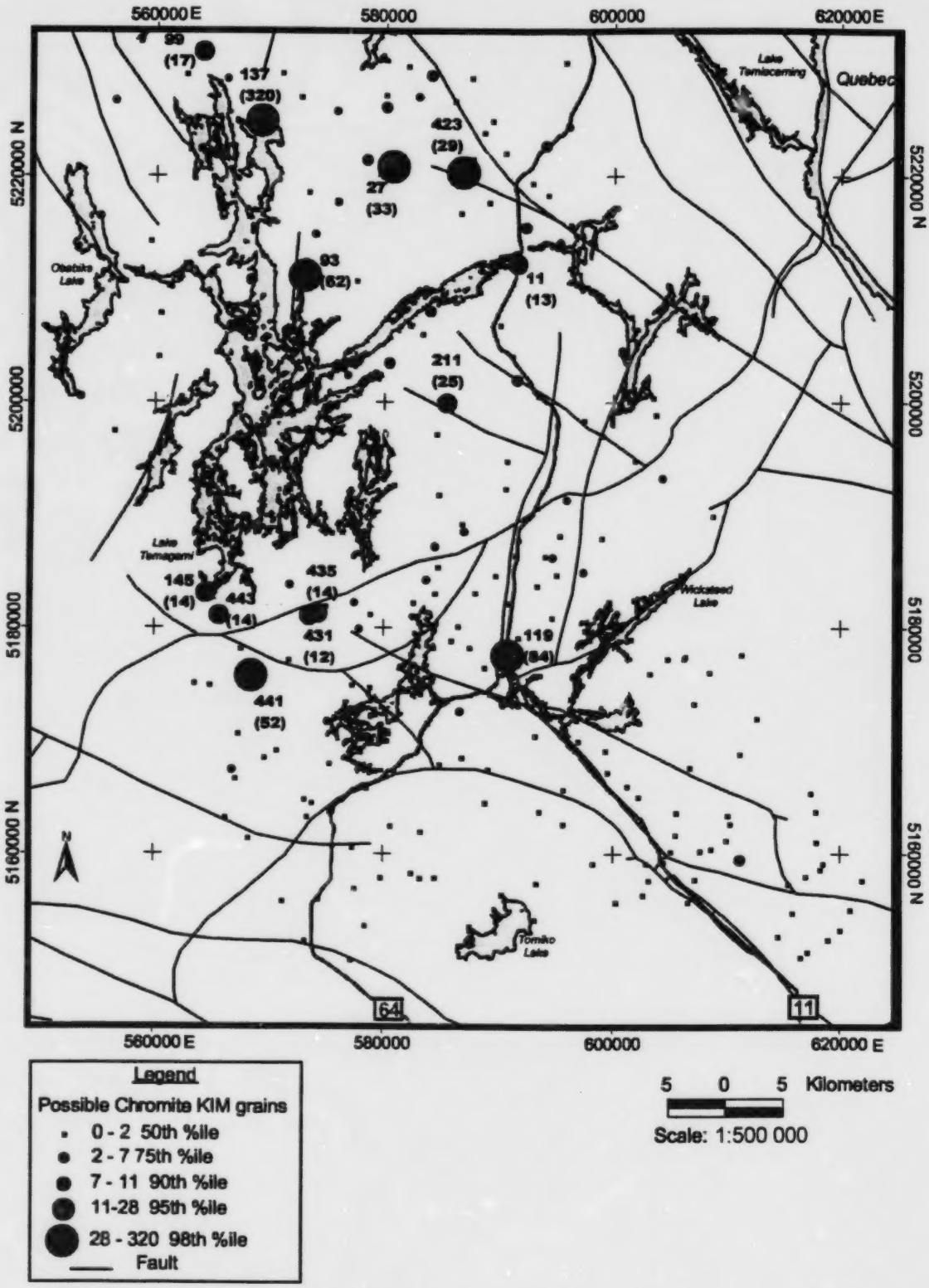


Figure 27: Regional distribution of possible chromite KIM grains (includes overlap field chromites). Anomalous sites are labeled with the corresponding number of grains shown in brackets

Cr-Diopside

The classification of Cr-diopsides has been characterised in numerous ways, resulting in lack of definitive composition(s) believed to be kimberlitic. Initially, values of >1.45 wt % Cr_2O_3 were outlined to signify kimberlitic affinity (Stephens and Dawson 1977), followed by values of >1.5wt % Cr_2O_3 (McClenaghan, Kjarsgaard, Stirling et al. 1999). More recently a ternary plot of Cr_2O_3-Al_2O_3-Na_2O has been used to define a kimberlitic field of Cr-diopsides separate from bedrock derived varieties (Morris et al. in press; Morris et al. 2000). The Cr values range from 1 to 40 molar wt % and Al_2O_3 ranges from 2 to 50 molar wt %. Na_2O ranges are related to Cr content, when 1molar wt % <Cr_2O_3 < 20 molar wt %, Na values are 29 to 48 molar wt %, while at Cr_2O_3>20 molar wt % the range increases from 19 to 58 molar wt % but does not exceed 65 molar wt %.

In total, 743 chrome diopsides (CDs) were identified by microprobe analysis. Classification by the ternary plot of Cr_2O_5/Al_2O_5/Na_2O revealed that 135 were KIMS (Figure 28). Cr-diopsides derived from bedrock formations in the region (the Kanichee Layered Complex; the River Valley Intrusion; The Nipissing Diabase from Cobalt and Wanapitei) are also plotted (denoted by Xs). It is evident that those CDs classified as kimberlitic have different compositions to those derived from bedrock. In addition, separate sources are indicated by a CaO/MgO/ FeO ternary plot (Figure 29) which was utilized in this survey to show a chemical comparison between bedrock derived CDs and kimberlitic CDs from the study area.

Additionally, 8 diopsides contain greater than 1.5 %wt. Cr_2O_3 and are considered to be kimberlitic. Of the remaining clinopyroxenes, 574 contain between 0.5 and 1.5 %wt. Cr_2O_3 and 26 < 0.5 %wt. Cr_2O_3. These were disregarded as KIMs due to the lack of certainty that they are derived from kimberlite.

The distribution of kimberlitic CDs in the study area is illustrated in Figure 30. Four anomalous sites (samples 93, 145, 187, 229) are evident and are coincident with the presence of other KIMs, enhancing the overall KIM signature of these samples.

The presence of CDs can be used as a measure of proximity to source because of their susceptibility to weathering. This mineral is one of the first to disappear after it has been transported from its source. Therefore, its recovery in a sample suggests local derivation.

Ilmenites

As a kimberlite magma rises to the surface, it reaches the stage where it no longer resides within the diamond stability field and diamond may be converted to graphite or CO_2 depending on the rapidity of the reaction's kinematics (Gurney and Moore 1993). Additionally, high fO_2 in the magma accelerates the resorption of diamond, which can remove up to 50% of the original diamond content (Gurney and Zweistra 1995). Ilmenites are abundant as macrocrysts in the kimberlite as well as in its groundmass. Therefore, they are considered to be representative of the depth and redox conditions of the magma chamber sampled, as well as subsequent changes

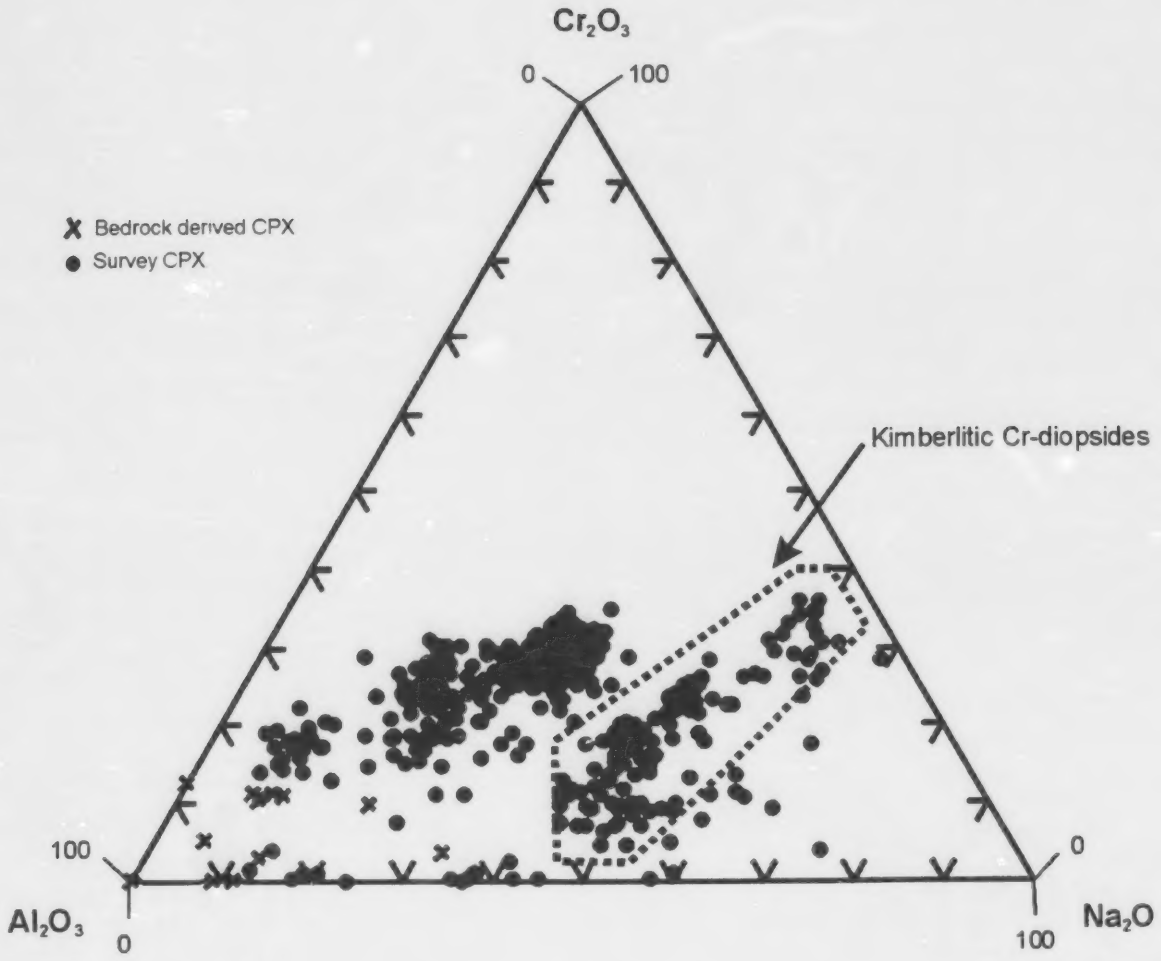


Figure 28: Ternary plot of $Cr_2O_3/Al_2O_3/Na_2O$ showing all chrome diopsides from the survey in comparison to CDs from bedrock sources including the Kanichee Complex (Hawke 1984); the Nipissing Diabase from Cobalt & Gowganda (Jambor 1971; Hriskevich 1968) and the Wanapitei Intrusion (Edgar 1986). (figure after Morris et al. 2000)

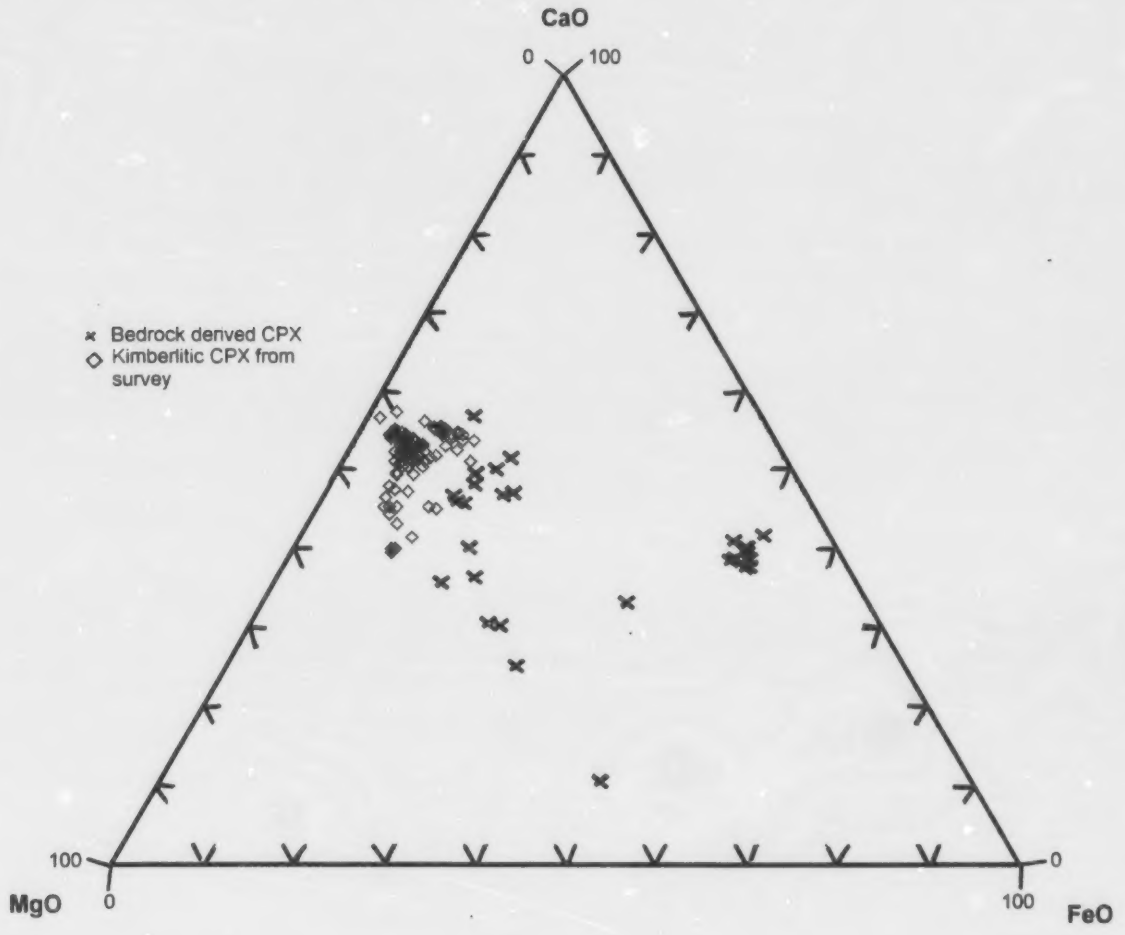


Figure 29: Ternary plot of CaO/MgO/FeO showing all kimberlitic chrome diopsides from the survey in comparison to CDs from bedrock sources including the Kanichee Complex (Hawke 1984); the Nipissing Diabase from Cobalt & Gowganda (Jambor 1971; Hriskevich 1968) and the Wanapitei Intrusion (Edgar 1986).

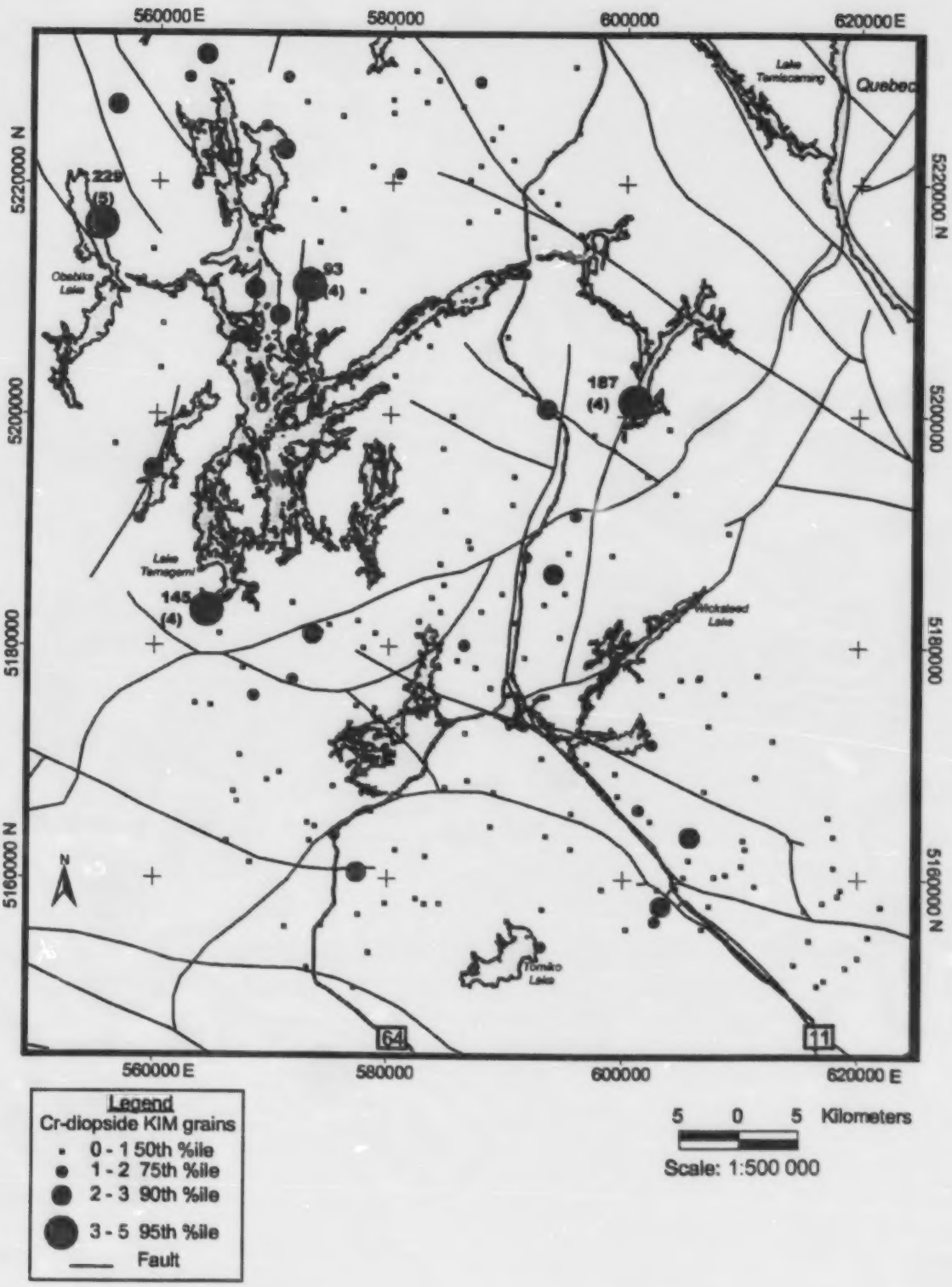


Figure 30: Regional distribution of Cr-diopside KIM grains. Anomalous sites are labeled with the corresponding number of grains shown in brackets.

that may have affected the kimberlite on ascent and emplacement (Verzhak et al. 1989; Gurney and Zweistra 1995). Ilmenite in equilibrium with diamond has been shown to contain minimal Fe^{3+}, representing a reduced environment, hence diamond would be best preserved in kimberlites where ilmenites with low Fe^{3+} are abundant (McCallum and Vos 1993; Sobolev 1984). The amounts of Fe^{3+} and Fe^{2+} are difficult to determine accurately, however low Fe^{3+} is correlated with high MgO and high Fe^{3+} with low MgO providing a measure of oxygen fugacity. In addition, high Cr_2O_3 content can indicate low levels of oxygen, however, only if it is coincident with high MgO (McCallum and Vos 1993; Gurney and Moore 1993). Consequently, ilmenites can be used to predict the degree of diamond preservation for various sites (Fipke et al. 1995). On a MgO/Cr_2O_3 plot, ilmenites with MgO ≥8 wt %, ranging up to 17 wt % MgO at increased Cr_2O_3 levels, indicate high preservation potential. In contrast, ilmenites with ranges originating at lower MgO values (~ 4-6 wt %), with little or no elevation in Cr_2O_3 at higher MgO values represent less preservation potential (Fipke et al. 1995). Therefore, in general, ilmenites with MgO ≥8 wt % are considered to indicate diamond preservation (Gurney and Moore 1991). It is important to note that the source mantle material had to be diamondiferous initially for the presence of diamond preservation ilmenites to be of any significance. Any ilmenites that have MgO <4 wt % are considered crustal and can be excluded (Fipke et al. 1995).

Microprobe analysis identified a total of 561 ilmenites, 365 of which are KIMs and 196 crustally derived. The KIM ilmenite population ranges in MgO content from 5.5 wt % up to 16 wt % (Figure 31). The majority of the population, however, is greater than 8 wt % MgO with scattered Cr content. There is an increase in Cr values between low MgO content (8-10 wt %) that suggests increased Fe^{3+} replacement of Fe^{2+}, as seen in ilmenites from the B30 pipe Kirkland Lake (Fipke et al. 1995). However, the dominant trend is of increased Cr content at higher MgO values indicating reducing conditions and therefore favourable for diamond preservation.

Those samples requiring picked estimate normalization are listed in Table 3. The regional distribution of total ilmenite KIMs, including normalized estimates is shown in Figure 32. Anomalies matching those observed for G10, G9 and megacrystic garnets, DI and KIM chromite are evident along a band in the north central section of the study area. The presence of the significant indicators, G10 and DI chromite in these samples increases the significance of the recovered diamond preservation ilmenites. Samples from the south-southeastern part of the study area reveal no signature of kimberlitic ilmenites.

Olivine

The presence of olivine on its own is a poor kimberlite indicator and should only be used in conjunction with the kimberlite indicator minerals previously described. Its extensive occurrence as well as compositional similarities in ultramafic rocks make it difficult to determine olivine's source rocks. Furthermore, it is easily weathered and is completely altered in many kimberlites as is evidenced in the Kirkland Lake pipes (Sobolev 1977, Sage 1996). Olivines that are forsteritic with MgO numbers (MgO/(MgO+FeO)) greater than 80% are considered to be derived from mafic or kimberlitic sources, while those with MgO numbers >90

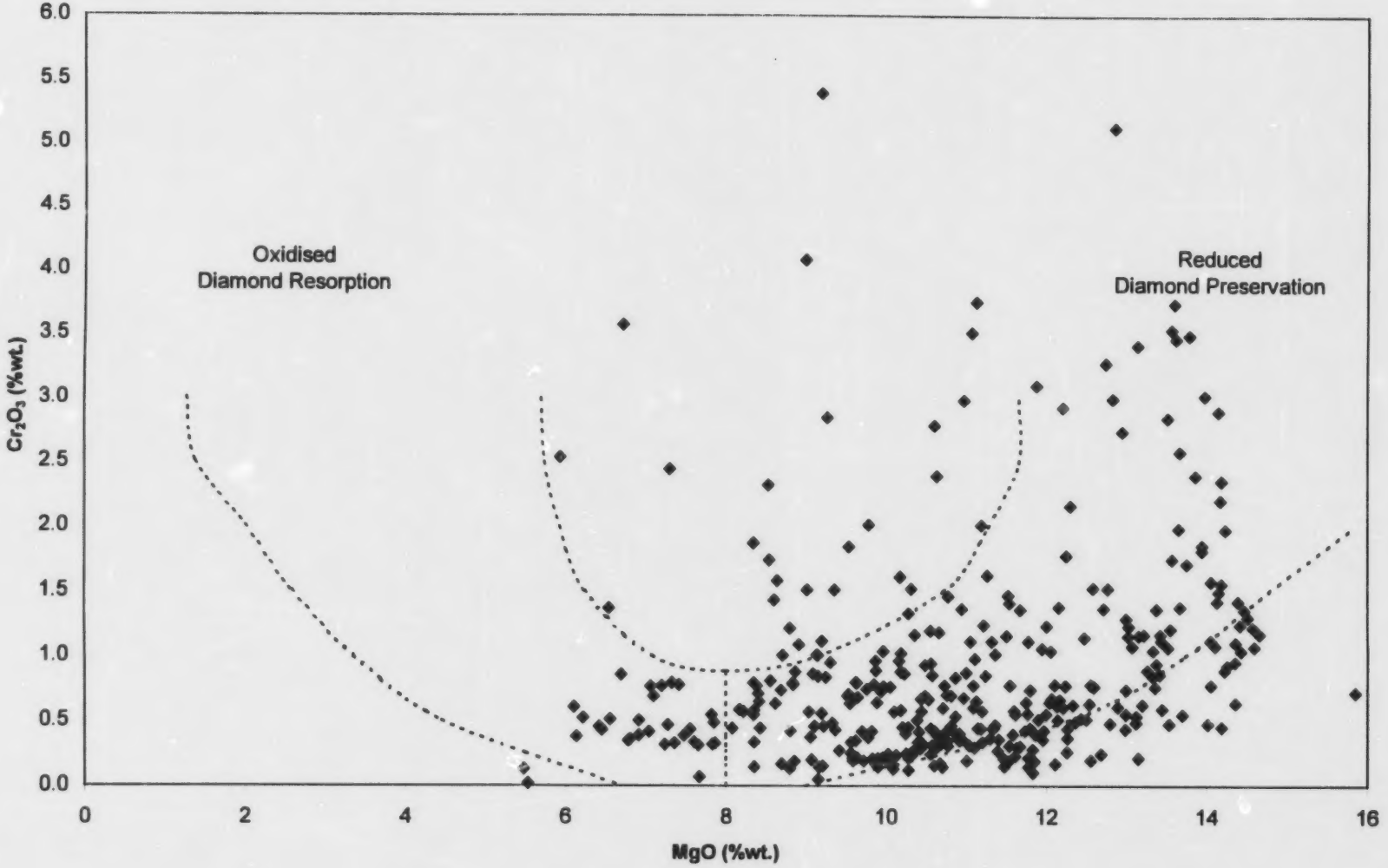


Figure 31: MgO/Cr_2O_3 plot of kimberlitic ilmenites (>4 %wt. MgO) from the study area (after Gurney and Moore 1991).

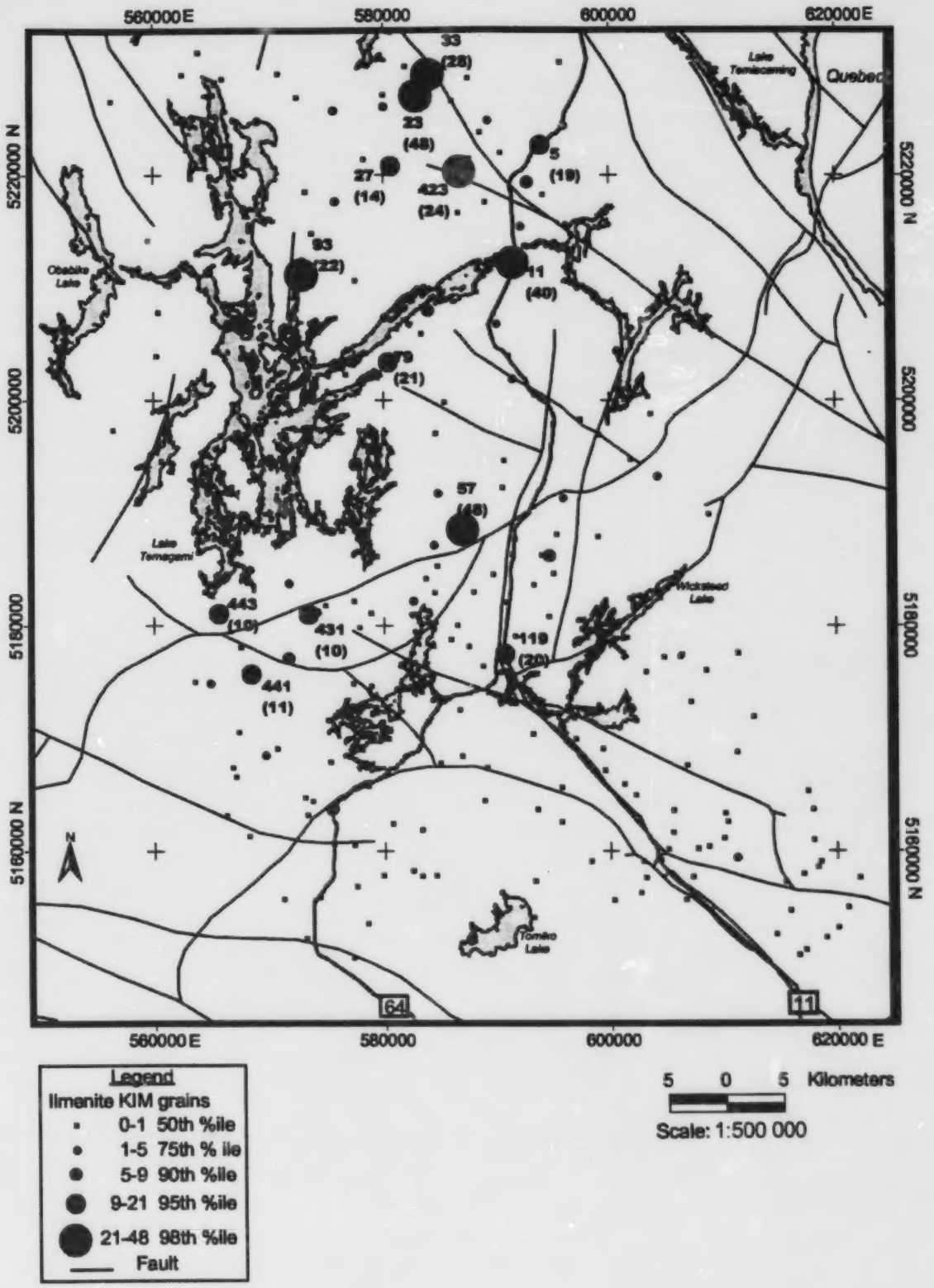


Figure 32: Regional distribution of ilmenite KIM grains. Anomalous sites are labeled with the corresponding number of grains shown in brackets.

Sample number	tot IM p	tot IM p(e)	tot KIM IM c	Picked estimate normalization tot (c) KIM IM
5	20	35	11	19
11	31	46	27	40
23	15	50	24	48
27	24	55	6	14
57	48	58	40	48
93	14	34	9	22
119	1	5	4	20
423	9	22	10	24
429	4	10	3	7
431	23	33	9	13

Table 3: Summary of samples that required picked estimate normalization with respect to ilmenites. (IM-ilmenites; p-picked; p(e)-picked estimate; c-confirmed)

are classified as kimberlitic (Morris et al. 2000). Olivines from the Peddie kimberlite in Kirkland Lake display MgO numbers > 85% (McClenaghan, Kjarsgaard, Kjarsgaard et al. 1999b). Only 23 olivines (OLIs) were recovered by the survey, of which 16 have MgO numbers greater than 80 and are considered as being derived from mafic or kimberlitic sources; 2 have MgO numbers greater than 40 and derived from mafic sources; while 5 with MgO numbers less than 40 are likely derived from felsic rock types (Figure 33). Of the mafic and kimberlitic derived OLIs, 15 have MgO numbers equal to or greater than 85, similar to OLIs from the Peddie pipe (denoted as Xs). Bedrock derived OLIs (Nipissing Diabase of the Portage Bay Intrusion; Bonanza Lake Intrusion and Cross Lake Intrusion; the River Valley Intrusion) are also plotted in Figure 33 (denoted by filled squares) representing separate populations to the OLIs recovered in this survey. This suggests that the survey OLIs are derived from sources other than the local bedrock formations identified. However, olivines cannot be used individually as KIMs, and the anomalous sites outlined in Figure 34 must be compared with other KIM anomalies. Samples 3, 65, 137, 199 and 265 contain other KIMs, increasing the level of confidence with which these OLIs can be considered to be kimberlitic. However, OLIs from samples 123, 177 and 447 are not coincident with other KIMs and are not considered to be significant.

Similar to Cr-diopsides, olivines are easily weathered and will quickly breakdown during transport. Additionally, olivines of the Kirkland Lake and New Liskeard pipes are highly altered after transportation, and within the pipe itself due to *insitu* weathering by meteoric water (Sage 1996). An abundance of olivines would be expected to accompany the numbers of other KIM types recovered. The lack of olivines apparent in this survey may be attributed to similar reasons as those described at Kirkland Lake and New Liskeard.

Total KIMs and Recommendations for Kimberlite Exploration

DI chromites and G10s are considered to be the most significant KIMS and the best indicators of diamond potential. Figure 35 summarizes the cumulative distribution of these significant KIMs. For the region, their presence is well represented and despite the scatter of the grains, a number of sites and areas that are considered favourable for kimberlite exploration can be outlined. A wide band in the central section, parallel to the Grenville Front, and between Lake Temagami and Wicksteed Lake, displays the largest cluster of samples containing significant KIMs. This can be subdivided into 2 areas. The first is immediately south of Lake Temagami (samples 145, 267, 291, 429, 431). The second covers a larger area encompassing samples 43, 57, 59, 61, 63, 119, 187, 189, 199, 209, 211, 257, 367, and 405. In the central north section, northeast of Lake Temagami, an additional cluster is evident and defined by samples 3, 5, 23, 27 and 33. Single sites (samples 93, 95, 97, 99, 229, 321, 329 and 503) are also of interest.

To further pinpoint anomalous sites, the distribution of all KIMs is summarized in Figure 36 and the distribution of all possible KIMs, taking into account chromites of the overlap field, is displayed in Figure 37. Anomalies identified in either figure indicate significant representation of all KIMs, with Figure 37 including overlap chromites as KIMs. Viewing the data in these additional ways results in the identification of a number of coincident anomalies apparent on both Figures 36 and 37 (samples 5, 11, 23, 27, 33, 57, 93, 119, 137, 423, 431, 433). In Figure 36, sample sites 59 and 79 are anomalous in total KIMs, however in Figure 37, these sites are not, falling within the 90th percentile. Regardless, the samples are still considered to be of significant interest.

A closer look at the local geology around the anomalous sites reveals the presence of numerous Mesoproterozoic mafic intrusives, previously described as including olivine-, granophyric- and porphyritic-diabase; intrusive breccia and lamprophyre. Sites that occur in close proximity to these intrusions include 5, 23, 33, 93 and 137. These intrusions may account for the observed heavy mineral signatures, however, the presence of G10s and DI chromites in these areas suggests an alternate source. The fault zones along which these intrusives were emplaced are likely deep seated as the rocks are mafic and sourced from depth. For this reason, these faults present viable conduits for kimberlite or related rock emplacement.

The other anomalous sites, samples 57, 119, 431 and 433 are not located in the local vicinity of the Mesoproterozoic intrusives. Intrusions of the Nipissing Diabase are present in the region, but as shown earlier, the chemistry of the olivines and clinopyroxenes differ sufficiently to eliminate the Nipissing Diabase as a source for the heavy minerals recovered. Figures 38, 39 and 40 demonstrate the structural dominance of these areas, providing numerous pathways for the passage of kimberlites or related rocks. Many orthogonal intersections of faults occur within the region enhancing the prospect of intrusion.

To further assess the aspect of whether the KIMs were locally or distally derived, pebble lithology studies can be used to some extent. The overlap of rock types belonging to different formations and provinces in the study area, however, makes it difficult to differentiate pebble source. It can be stated that all the rock types found as pebbles in the modern alluvium samples are present in the study area. Table 4 summarizes the percentages of pebble lithologies present in

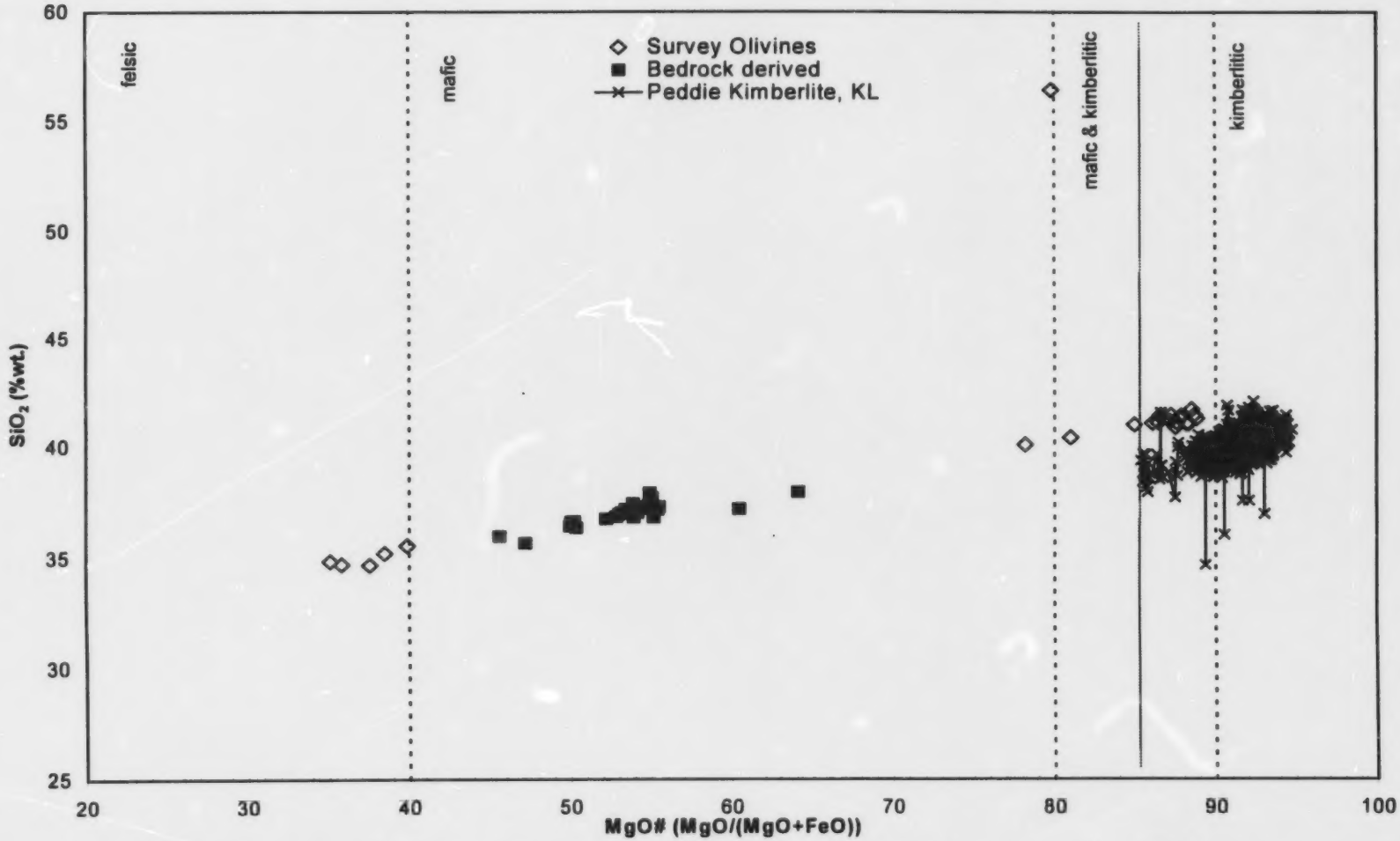


Figure 33: MgO number/SiO_2 plot showing compositions of olivines recovered from this survey. Additionally, olivines sourced from the Nipissing Diabase of Portage Bay, Bonanza Lake & Cross Lake intrusions (Conrod 1988); the River Valley Intrusion (J. Hrominchuk MERC, personnal communication 2000); and the Peddie kimberlite (McClenaghan, Kjarsgaard, Kjarsgaard et al. 1999).

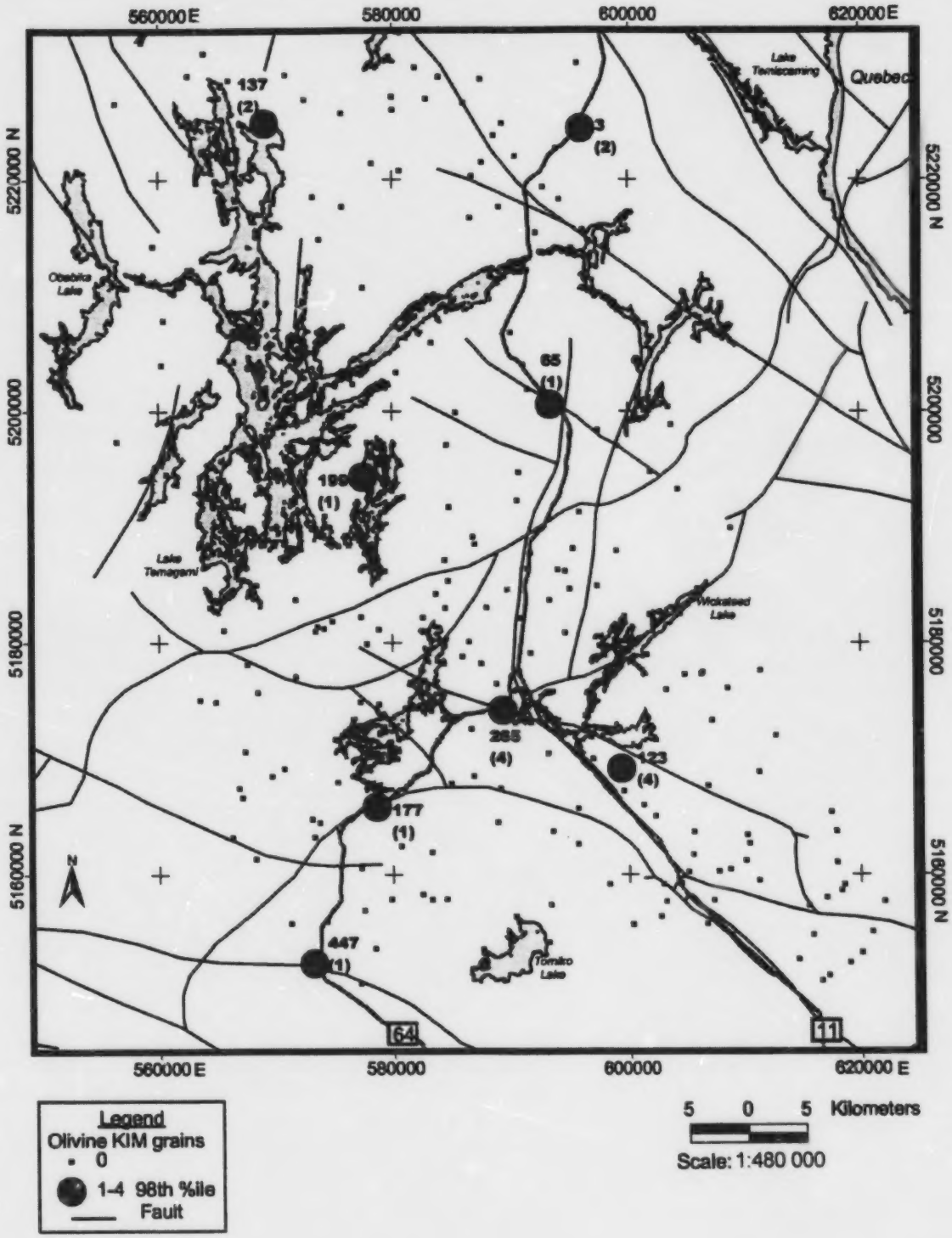


Figure 34: Regional distribution of olivine grains. Anomalous sites are labeled with the corresponding number of grains shown in brackets.

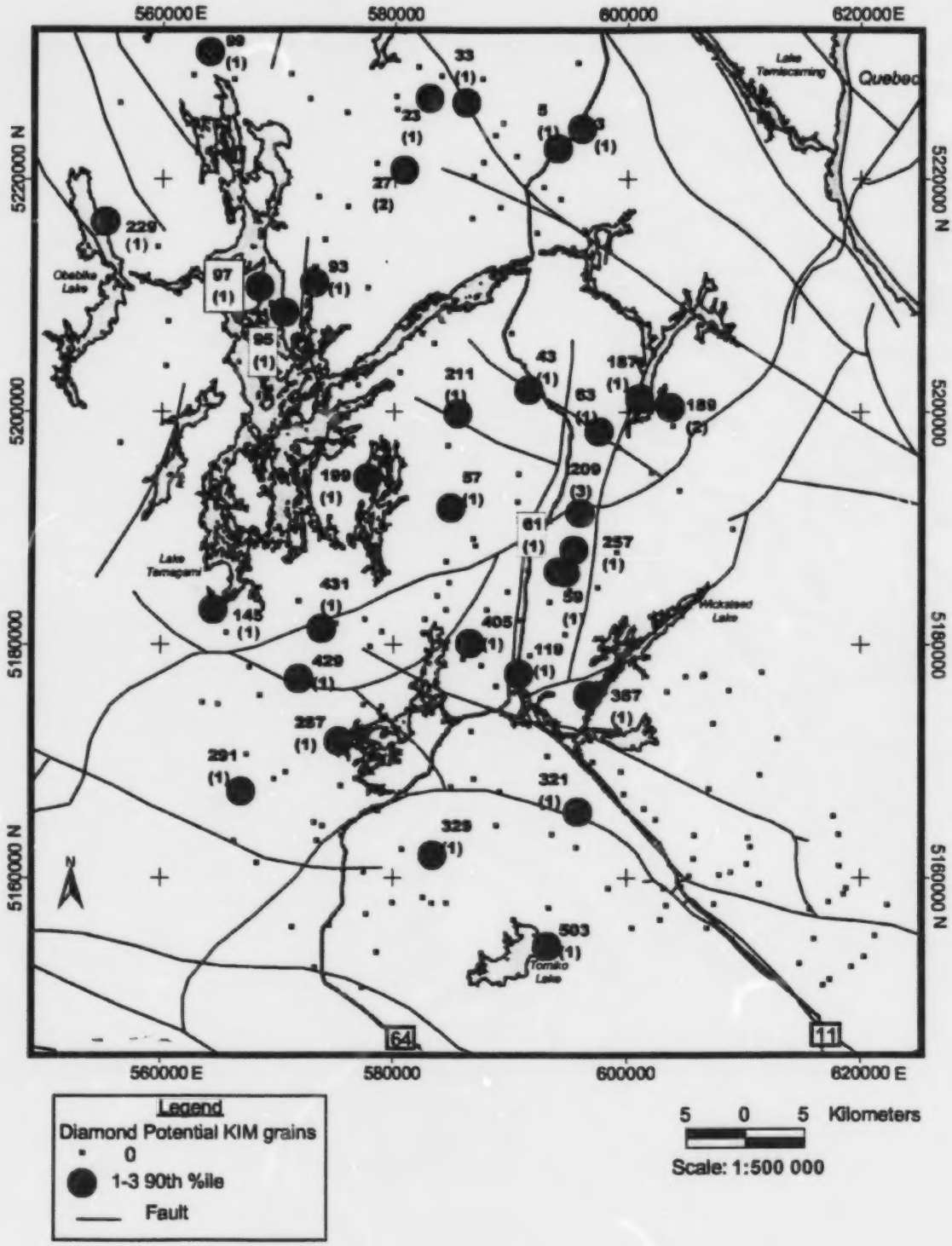


Figure 35: Regional distribution of total potential diamond KIM grains (G10 and DI chromites). Anomalous sites are labeled with the corresponding number of grains shown in brackets.

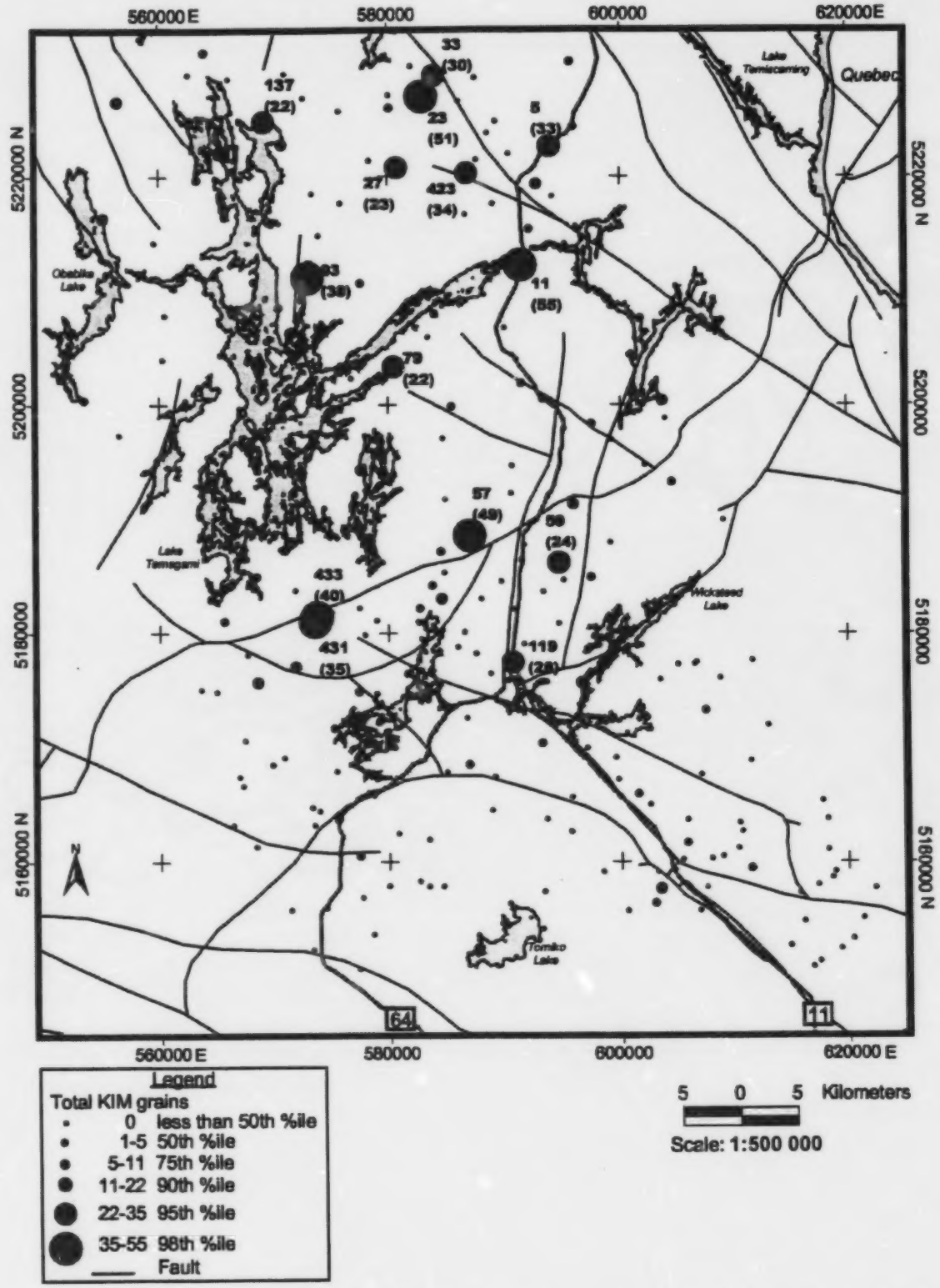


Figure 36: Regional distribution of total KIM grains (all garnets, chromite KIMs, ilmenite KIMs, CD KIMs, OLIs). Anomalous sites are labeled with the corresponding number of grains shown in brackets.

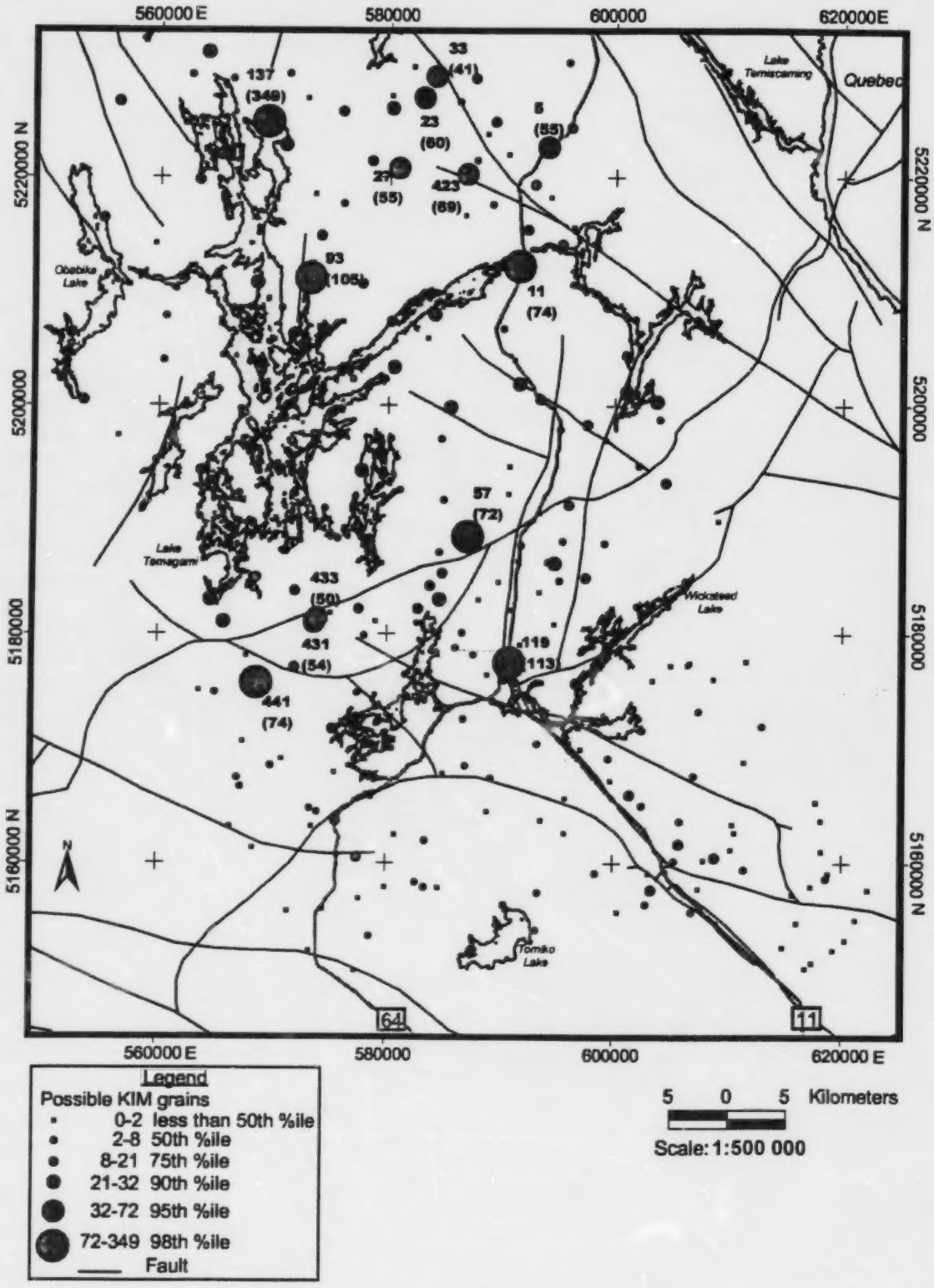


Figure 37: Regional distribution of total possible KIM grains (includes all of total KIMs as well as overlap field chromites). Anomalous sites are labeled with the corresponding number of grains shown in brackets.

Sample	Rock Type	FI %	MIG %	Gn %	MI %	MUI %	MV %	HSG %	Carb %	OTH %	UNK %	Tot VOL	Tot INTR	Tot SEDS	Tot META
MA-5-00SA	FI	40	0	0	0	0	0	60	0	0	0	0	40	60	0
MA-11-00SA	HSG	26	0	19	0	4	21	23	2	6	0	21	30	23	19
MA-23-00SA	FI	40	0	12	0	0	4	44	0	0	0	4	40	44	12
MA-27-00SA	FI	22	2	0	4	20	29	22	0	0	0	29	47	22	2
MA-33-00SA	FI	13	0	0	0	9	9	69	0	0	0	9	22	69	0
MA-57-00SA	FI	27	0	5	0	0	31	35	0	2	0	31	27	35	5
MA-59-00SA	FI	42	0	0	0	0	22	25	0	11	0	22	42	25	0
MA-79-00SA	FI	22	0	15	0	17	26	17	2	2	0	26	39	17	15
MA-93-00SA	MV	17	2	6	6	0	42	28	0	0	0	42	23	28	8
MA-119-00SA	MIG	41	0	6	4	0	15	35	0	0	0	15	44	35	6
MA-137-00SA	HSG	20	0	0	4	0	15	62	0	0	0	15	24	62	0
MA-423-00SA	MV	20	0	34	0	0	20	25	0	2	0	20	20	25	34
MA-441-00SA	MIG	13	0	2	39	0	44	2	0	0	0	44	52	2	2

Table 4: Pebble lithology percentages for anomalous samples identified in Figures 36 and 37. No pebbles were available for collection at sample sites 431 and 433. (Abbreviations for rock types: FI-felsic intrusive; MIG-migmatite; Gn-Gneiss; MI-mafic intrusives; MUI-Mafic& Ultramafic Intrusives; MV-metavolcanic; HSG-Huronian Supergroup;Carb-carbonate; OTH-other; UNK-unknown; VOL-volcanics; INTR-intrusives; SEDS- sediments; META-metamorphics).

the anomalous samples as defined in Figures 36 and 37. As a whole, pebbles were angular, only sediments such as argillites were rounded or subrounded, as expected, due to the softness of the rock type.

The types of surficial deposits found in the study area can provide some indication of local or distal derivation of the KIMS in the anomalies identified. Sites 57, 119, 431 and 433 are close to or situated within deposits of glaciofluvial outwash. These deposits may consist of some distally derived material and the heavy minerals could have traveled some distance from source. Similarly, site 93 is located within an area of glaciofluvial ice-contact deposits, and sites 5, 23 and 33 in an area dominated by till. However, closer inspection of surrounding samples reveals that the presence of KIMs is still well represented in areas that do not intersect or incise glaciofluvial deposits. These adjacent sites are representative of the same vicinity as the anomalous sites, inferring that local derivation can be considered probable. This observation can be applied to counter the idea that derivation of KIMs is from a kimberlite boulder located upstream, deposited in the area by glacial activity, but which is actually distally sourced. An anomalous value in one sample could likely result from such an occurrence, however, the presence of KIMs in multiple samples within an area suggest that derivation is local. Generally, local derivation can be inferred due to the bedrock-dominated nature of the area. At most locations, bedrock outcropped on at least one side of the stream.

Figure 41 shows the total magnetic field of the study area, with samples showing anomalous values of KIMs labeled. In the vicinity of anomalous KIM signatures, circular highs or lows can be observed. The line spacing of this geophysical survey was 800 m therefore resolution is not as detailed as desired or necessary. To better define anomalous areas, closer flight lines are essential.

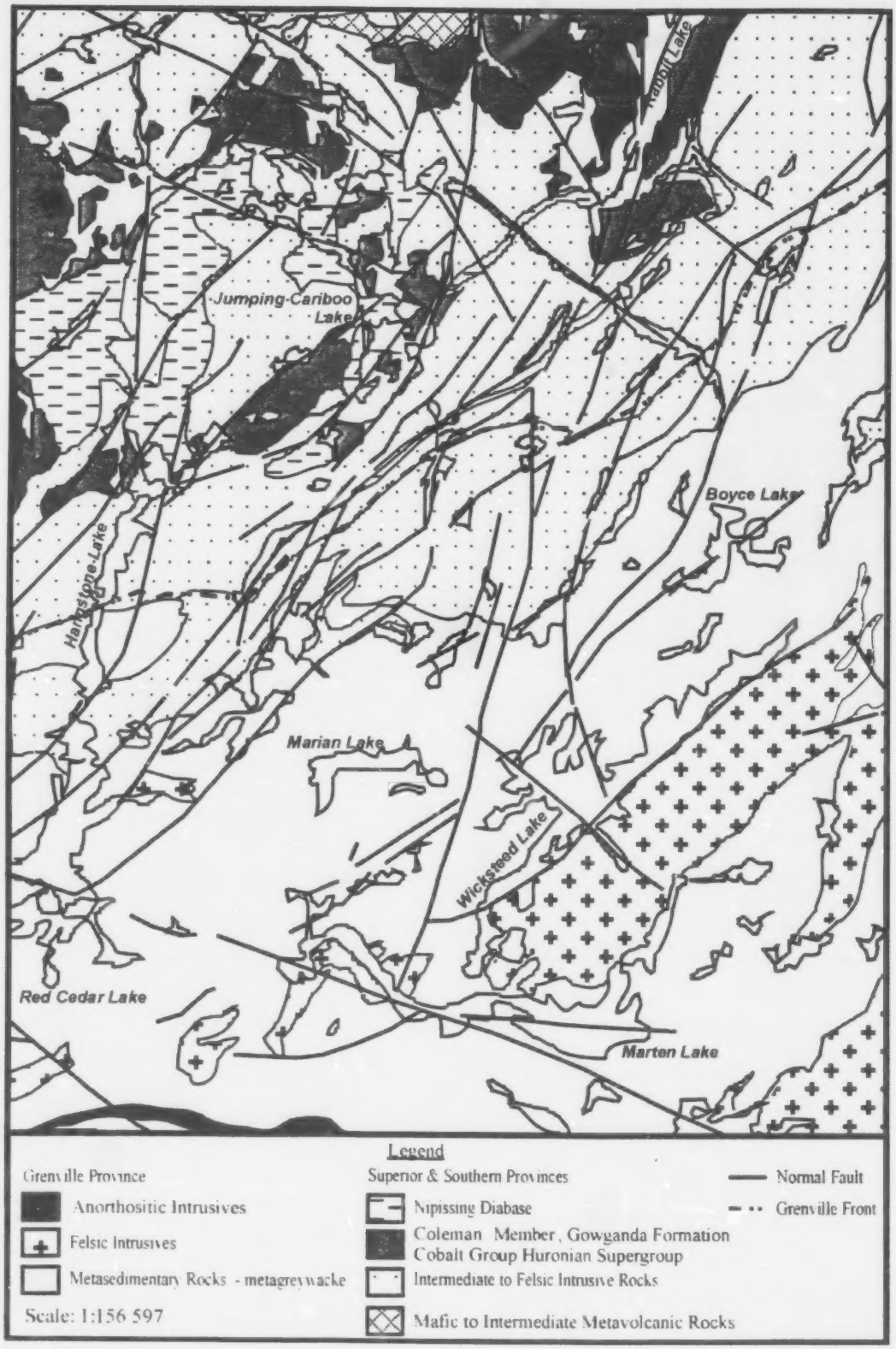


Figure 38: Bedrock and structural geology of the central section of the study area (after Card and Lumbers 1975).

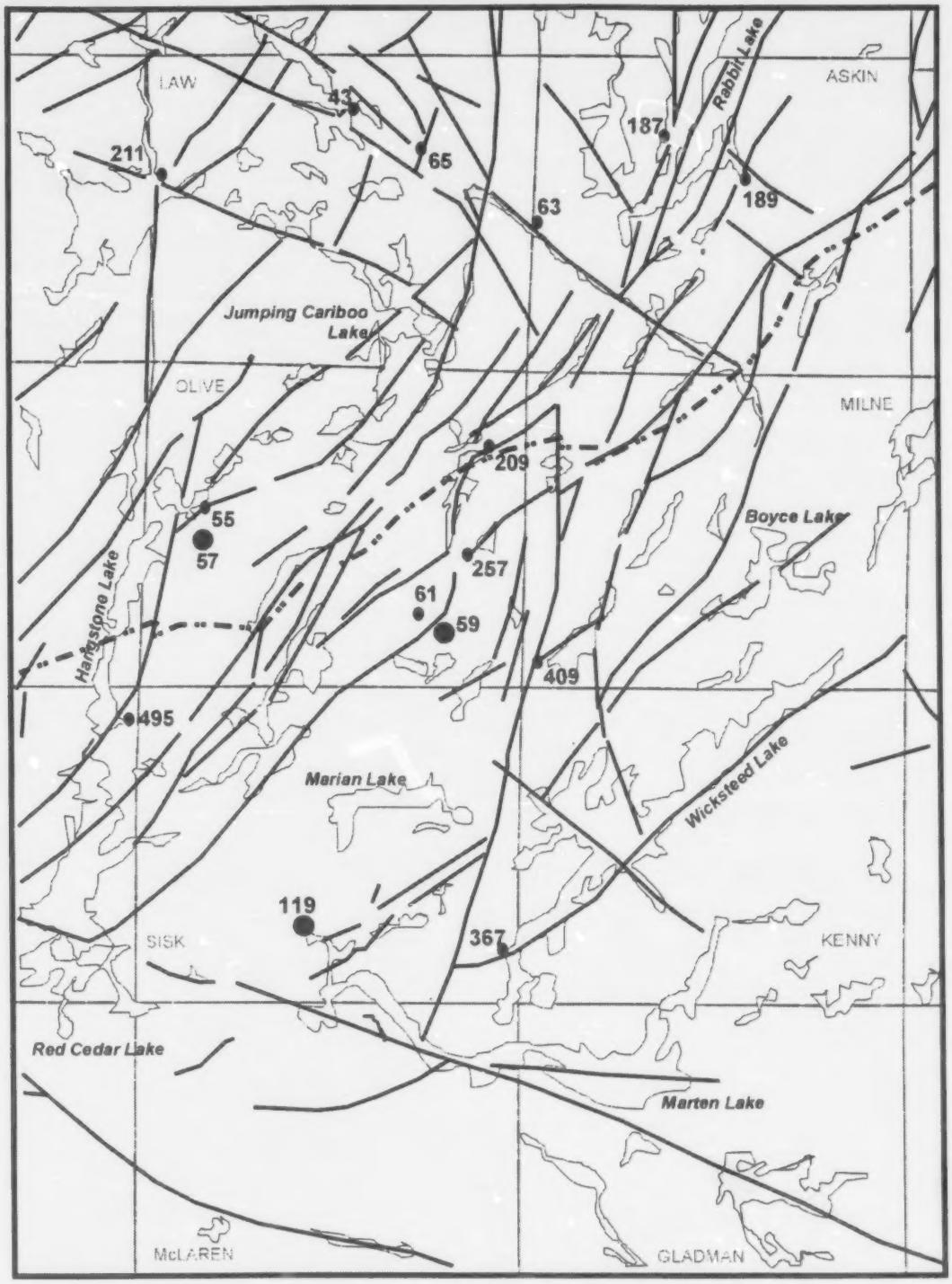


Figure 39: Structural geology of the central section of the study area, showing samples sites with anomalous values of different KIM grains. Larger dots indicate sample sites that were identified in Figures 36 and 37. The same legend and scale apply as in Figure 38 (after Card and Lumbers, 1975).

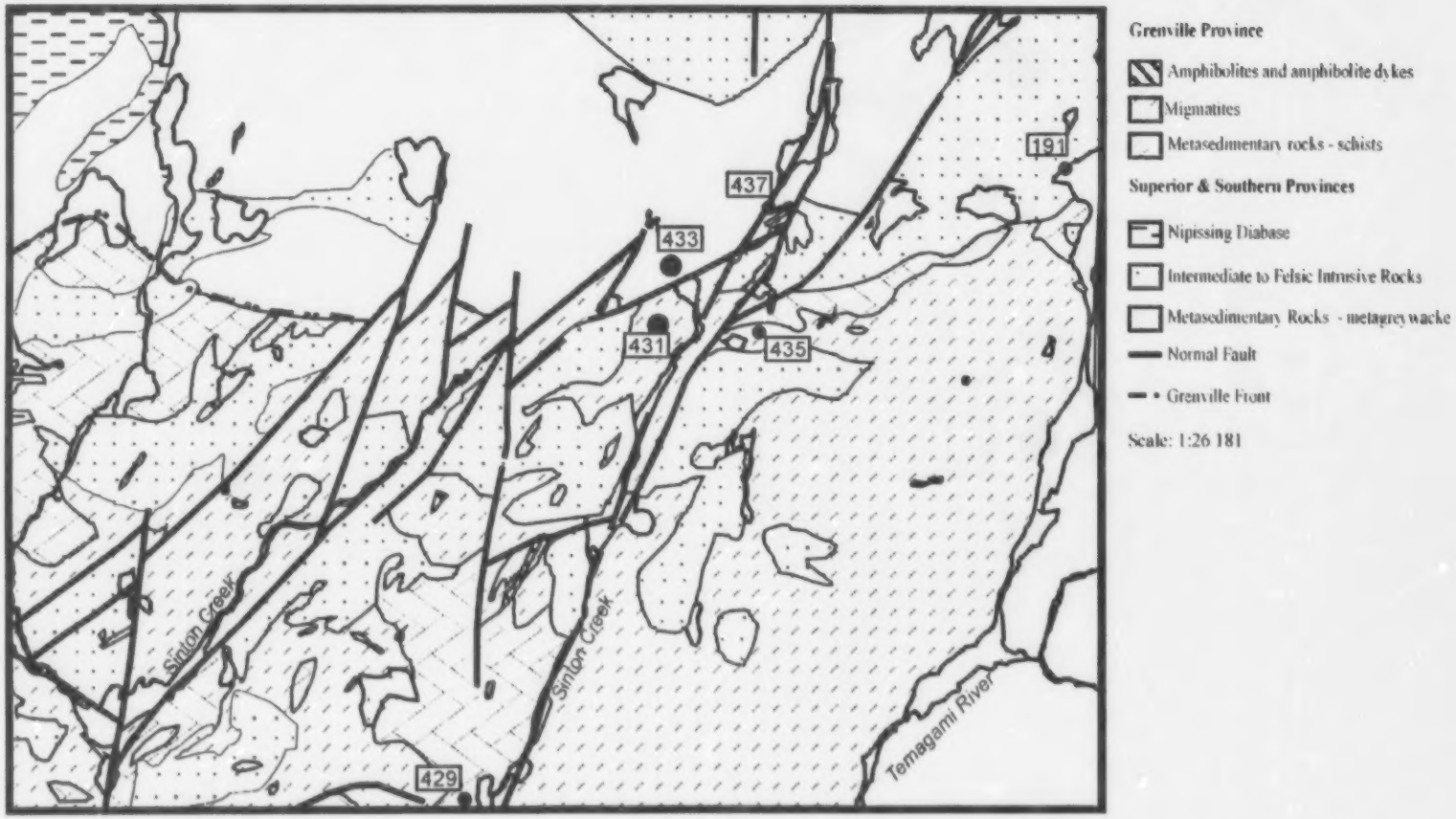


Figure 40: Bedrock and structural geology of a section of Hobbs township (after Grant 1964). Sample sites within the area are labelled. Larger dots represent sites that were identified as anomalous in Figures 36 and 37.

Figure 41: Total magnetic field of the study area (Gupta 1991). Labeled samples represent anomalies of different KIM types.

Metamorphic or Magmatic Massive Sulphide Indicator Minerals

The MMSIMs® listed previously are useful to identify the following types of base metal deposits: metamorphosed and volcanosedimentary massive sulphide mineralization; skarn; griesen; and magmatic Ni-Cu massive sulphide deposits (Averill 1999). The deposit types and their associated indicator minerals are listed in Table 5.

Indicator Mineral	MVMS	Mag Ni-Cu	Skarn	Griesen
chalcopyrite	■	■	■	■
chromite		■		
corundum	■			
Cr-rutile	■	■		
forsteritic olivine			■	
gahnite	■			
grossular			■	
kyanite	■			
low Cr-diopside		■		
molybdenite	■	■	■	■
Mn-epidote	■			
native gold	■		■	
olivine		■		
orthopyroxene	■	■		
pyrite	■	■	■	■
sillimanite	■			
spessartine	■			
staurolite	■			
uvarovite		■		

MVMS: metamorphosed volcanosedimentary massive sulphide mineralization
Mag Ni-Cu: magmatic nickel-copper massive sulphide mineralization

Table 5: List of indicator minerals found in the survey and the associated base metal mineralization style (after Averill 1999). The presence of a mineral species is indicated by a shaded rectangle.

Cr-Diopside

An important constituent mineral of pyroxenitic and peridotitic horizons associated with a number of Ni deposits (Outokumpo, Finland; Thomson Nickel Belt, Manitoba), Cr-diopside is considered a useful Ni-Cu indicator (Averill 1999). Clinopyroxene (CPX) is one of the first

minerals to crystallize from a mafic/ultramafic melt. If its formation precedes chromite, Cr in the melt may initially be incorporated into the diopside structure. However, CPX crystallization occurring after chromite can still produce Cr-diopside. The silicate melt will eventually be Fe-depleted due to the formation of Ni-Cu minerals and chromite crystallization will cease, allowing any excess Cr to be included in diopside. Values of <1.3 wt % Cr_2O_3 in diopsides of these deposits have been reported and are generally used as a guideline for MMSIMs®, excluding, however, those Cr-diopsides that plot within the kimberlitic field defined on a Cr_2O_3-Al_2O_3-Na_2O ternary diagram (Morris et al. 2000).

Chromite

During fractional crystallization of mafic and ultramafic magmas, chromite is one of the earliest minerals to appear, and often forms layered cumulates at the base or within the solidified melt. Chromite is a primary component of many mafic and ultramafic layered intrusions that are hosts to Ni-Cu mineralization (Bushveld Complex, S.Africa; Skaergaard Intrusion, Greenland; Stillwater Complex, Montana; Muskox Intrusion, NWT), as well as komatiitic flows, which host Ni-sulphide mineralization (Kambalda, Australia; Nor'ilsk, Russia).

Those chromites that are classified from a TiO_2/Cr_2O_3 plot as not belonging to kimberlite or lamproite or that plot within the overlap field are considered to be MMSIMs®.

Gahnite

The zinc spinel, gahnite ($ZnAl_2O_4$) is a useful indicator mineral in exploration for base metal deposits (Parr 1992). It is associated with the following geological environments: metamorphosed massive sulphide deposits; aluminous metasediments; pegmatites and marbles (Spry and Scott 1986). The crystallization of gahnite can occur by the following mechanisms: desulphidation of sphalerite during metamorphism under high fO_2; reaction between kaolinite (aluminous clay) and absorbed ZnO; reaction between Zn associated with organic material and sulphur to form ZnS, which subsequently reacts with kaolinite; breakdown of Zn bearing silicates (biotite and staurolite) during prograde metamorphism; precipitation from hydrothermal fluids; contamination of a felsic melt by Zn-enriched wallrock (Dunlop 2000). The presence of gahnite in a deposit type may result from one or a combination of these mechanisms.

It has been demonstrated that the composition of gahnite reflects which type of deposit it originated from (Morris, Breaks, et al. 1997; Dunlop 2000). Enrichment in MgO (>2 wt %) and depletion in ZnO (<32.7 wt %) indicates a polymetallic source, whereas MgO < 0.7 wt % indicates derivation from peraluminous granite (0.3-0.7 wt %) or rare earth pegmatites (<0.3 wt %). Pegmatites and peraluminous granites result from late stage fractional crystallization, therefore any MgO in the felsic silicate melt would have been removed from the system earlier during crystallization of mafic minerals. Consequently, gahnite crystals that formed would reflect the Mg-depleted nature of the parent magma (Batchelor and Kinnaird 1984; Dunlop 2000). The lower MgO limit for rare earth pegmatites likely results because they are more felsic than peraluminous granite and there is less chance of any remnant MgO in the melt. Additionally, of

consequence, is the lack of other crystallizing phases in these felsic melts that incorporate Zn into their structures (Dunlop 2000).

In metamorphic terrains, Mg is remobilized by the breakdown of mafic phases such as biotite and amphibole and could be incorporated into the crystallizing gahnite, increasing its MgO content (Batchelor and Kinnaird 1984; Dunlop 2000). Additionally, lower ZnO values may result due to higher fS_2 in metamorphic environments, therefore, sphalerite is preferentially deposited (Parr 1992; Dunlop 2000). Lower ZnO values in gahnites originating from metamorphosed massive sulphide deposits may possibly indicate more ZnS and thus potentially higher amounts of ore.

Other Metamorphic/ Magmatic Massive Sulphide Indicator Minerals

As mentioned earlier, the formation of Ni-Cu sulphide minerals removes Fe from a crystallizing mafic/ultramafic melt, resulting in the formation of Mg-rich olivines and Mg-rich orthopyroxenes. Additionally, the conclusion of chromite crystallization resulting from the lack of Fe allows excess Cr in the melt to be incorporated into red rutile and uvarovite (Averill 1999).

Picking results for MMSIMs® were reported in 3 ways: actual grain counts (e.g., chalcopyrite), percentages of the total fraction size (e.g., orthopyroxene) or as trace amounts (e.g., kyanite). For the purpose of interpretation, a ranking system was designed to analyze the data in a uniform manner and facilitate identification of anomalous sites. Minerals stated as being present in trace amounts were assigned values representing half of the lowest reported amount, therefore 0.25%. For each sample, the number of different MMSIM® types present was totaled. The highest value reported was designated the most anomalous and so established as the highest rank.

Categorisation of MMSIMs® by rank according to the total amount of indicator minerals present revealed 22 anomalous sites. Within the 98th percentile, 9 sites ranked highest at 10 or 11, while in the 95th percentile, 13 sites scored a rank of 9 (Table 6). The regional distribution of the anomalies is shown in Figure 42. Regional chalcopyrite distribution is displayed in Figure 43, 14 sites were identified as anomalous, half above the 98th percentile and the other half above the 95th percentile (Table 7)

In the northern half of the study area, various types of geological environments could account for the signatures observed. The mafic and ultramafic rocks of the Nipissing Diabase, Sudbury swarm and related intrusive rocks may have pods of magmatic Ni-Cu massive sulphides. Small quartz-carbonate veins containing anomalous values of Cu, Ag, Co ± Au, Ni have been reported in the region (Born 1989; Smyk et al. 1997). The emplacement of Archean mafic and felsic intrusives or Proterozoic mafic intrusives may have liberated hydrothermal

Sample Number	low Cr-diop.	Cpy	Moly	Py	Gah	Cor	Mn Epi	Uva	Cr Gros	Red Rut	Chr	Gth %	Ky %	Sil %	St%	Sps %	Fay %	Opx %	Rank	Rock Type
399	2	0	0	400	0	0	0	0	2	2	5	0.25	0.25	0.25	2	0.25	5	0	**11**	FI/MS
3	2	1	0	7	0	0	0	0	0	0	4	0.25	0.25	0.25	0.50	0	0.50	3	**10**	ND/FI
7	5	14	1	3000	0	0	0	0	0	0	8	1	0.25	0	0.25	0	15	0.25	**10**	HSG/MV
97	17	15	0	75	0	0	0	0	0	0	9	5	0	2	0.25	0.25	0.25	2	**10**	HSG
127	3	0	0	5	0	1	0	0	0	35	1	0.25	0.50	0	4	0.25	0	0.25	**10**	MS
153	9	2	0	10	0	0	0	0	0	1	4	0.25	0	0.25	0.25	0.25	0	1	**10**	ND/FI
171	2	0	0	1	0	0	0	0	0	1	4	0.25	0.25	0.25	0.25	0.25	0	7	**10**	MS/MUI
191	0	0	0	40	0	0	1	1	0	0	7	0.25	0.25	0.25	0.25	0	3	2	**10**	FI/MS
435	1	1	0	20	0	0	0	0	0	1	14	0	0.25	0.25	1	0.25	0	0.25	**10**	FI/MS
5	1	0	0	2	0	0	0	0	0	1	7	0.25	0.25	0	0.25	0	10	0.25	**9**	ND/FI
11	1	5	0	2500	0	0	0	0	0	0	12	2	0.25	0	0.25	0	3	1	**9**	MV
69	5	2	0	11	0	0	0	0	0	0	7	0.25	0.25	0	0.25	0.25	0.25	0	**9**	MV
135	21	1	0	20	0	1	0	0	0	0	3	0	0.25	0.25	1	0	0	2	**9**	HSG/ND
181	12	0	0	6	0	0	0	0	0	0	2	0	0.25	0.25	4	0.25	15	7	**9**	ND
187	2	0	0	15	0	0	0	0	0	0	1	0.25	0.25	0.25	0.25	0	0.25	0.25	**9**	ND
205	0	0	0	5	0	0	0	0	0	2	4	0.50	0.25	0.25	7	0.25	0	0.25	**9**	FI
221	1	2	0	15	0	0	0	0	0	0	0	0.25	0.25	0.25	0.25	0	0.25	3	**9**	ND
239	7	2	0	5	0	0	0	0	0	0	8	0.25	0.25	0	0.25	0.25	0	8	**9**	MV
379	0	0	0	5	0	0	4	0	0	2	1	0	0.25	0.25	1	0.25	0	0.25	**9**	FI
409	8	1	0	0	0	0	2	0	0	0	2	0	0.25	0.25	4	0	0.25	2	**9**	FI/MS
431	19	0	1	20	0	0	0	0	0	1	11	0	0.00	0.25	3	0.25	0	10	**9**	FI/MS
441	5	3	0	200	0	0	0	0	0	1	26	0	0.25	0	0.25	0	6	0.25	**9**	FI/MS

Table 6: Summary table of anomalous MMSIMs® picked and anomalous MMSIMs® sites. Actual grain numbers are shown unless labeled otherwise (e.g., %). Samples ranked 10 and 11 fall within the 98th percentile and samples ranked as 9 within the 95th percentile.
For abbreviations of MMSIM® types see Appendix G (this report).
(Abbreviations of Rock types: FI-felsic intrusive; MV-metavolcanic; MS-metasediments; Gn-Gneiss
ND-Nipissing Diabase; HSG-Huronian Supergroup; MUI-Mafic&Ultramafic Intrusives)

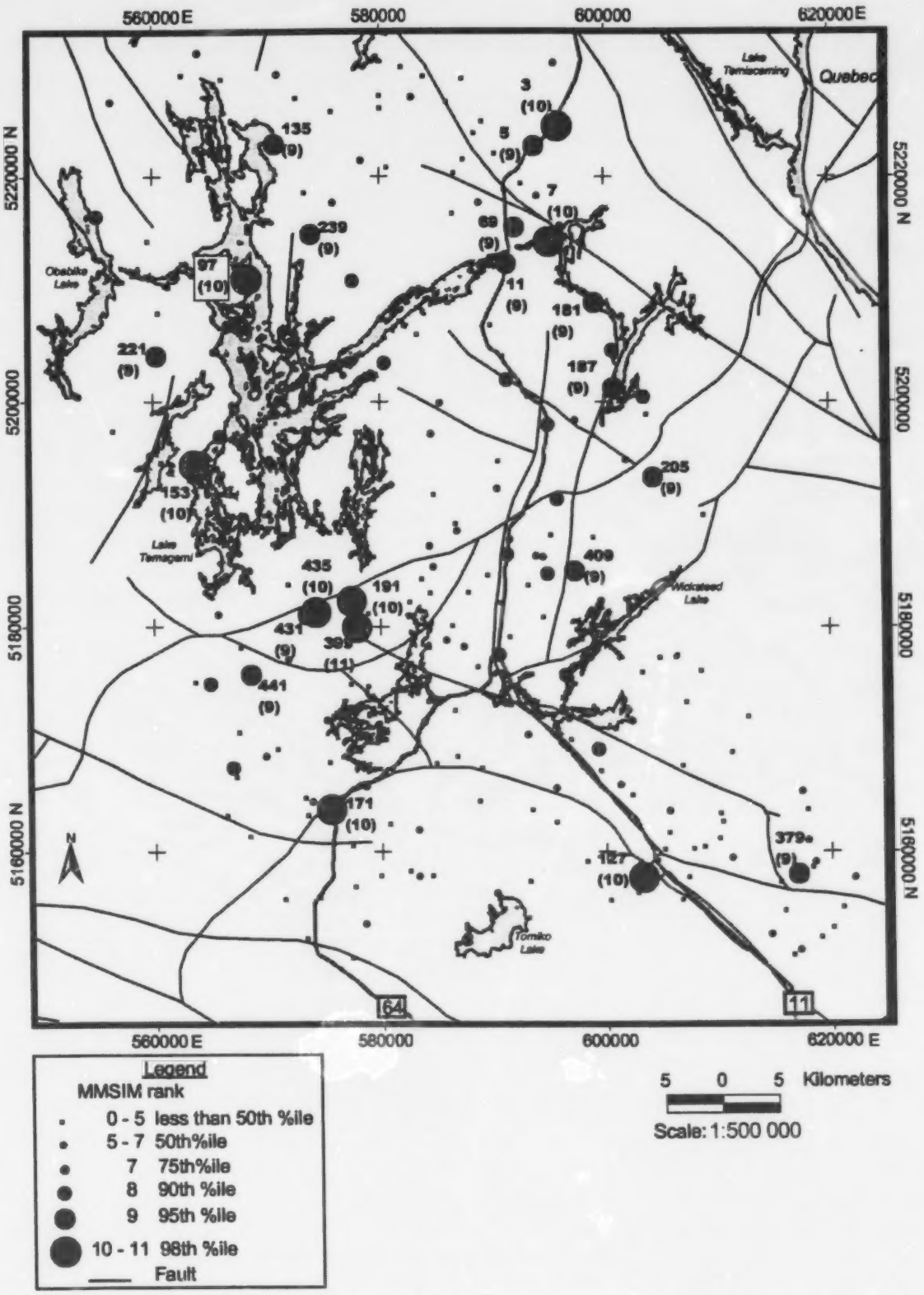


Figure 42: Regional distribution of MMSIM® indicators. Labeled anomalies were determined by level of rank (described in text) which is shown in brackets.

Sample Number	Cpy	Percentile	Rock Type
61	90	98	FI
87	29	98	MV
347	18	98	MS/Gn
97	15	98	HSG
7	14	98	ND/HSG/MV
71	9	98	MV
123	9	98	MS
117	7	95	MS/MUI
209	7	95	ND/HSG/MV
101	6	95	HSG
11	5	95	MV/ND/HSG
17	5	95	MV/ND/HSG
9	4	95	ND
65	4	95	ND

Table 7: Summary of anomalous chalcopyrite sites. (Abbreviations of Rock types: FI-felsic intrusive; MV-metavolcanic; MS-metasediments; Gn-Gneiss ND-Nipissing Diabase; HSG-Huronian Supergroup; MUI-Mafic& Ultramafic Intrusives)

fluids that remobilized metals from the metavolcanics or Huronian sediments. Subsequently, these fluids, travelling along structural contacts or fault zones, could have deposited the sulphides in quartz-carbonate veins in any of the rock formations present in the vicinity. Additionally, later metamorphism could have resulted in the genesis of similar veins. The Archean felsic metavolcanics in the northern section are reportedly associated with metamorphosed VMS occurences (Born 1989). Sulphide veins in rhyolites and related felsic volcanic rock types may represent stringer zones of VMS settings.

South of the Grenville Front, anomalous samples are associated with felsic intrusives and metasedimentary rocks. The intrusion of the felsic rocks into the sediments may have released hydrothermal fluids that would have scavenged the sediments for metals, subsequently depositing the sulphides. The anomalies tend to occur near or on faults, which could have served as conduits for the flow of fluids. Additionally of consequence is the presence of minor pods of mafic and ultramafic intusives of River Valley type in the southern part of the area. Any disseminated sulphides associated with these intrusions may account for the southern anomalies.

Of the MMSIMs®, 4 gahnite grains were recovered and sent for microprobe analysis. Their compositions, plotted on a ternary diagram of ZnO, FeO and MgO are shown in Figure 44. The gahnites grains are Zn-enriched and MgO depleted, falling in the area generally representative of rare-earth pegmatites (Dunlop 2000, Morris, Breaks, et al. 1997). However, the

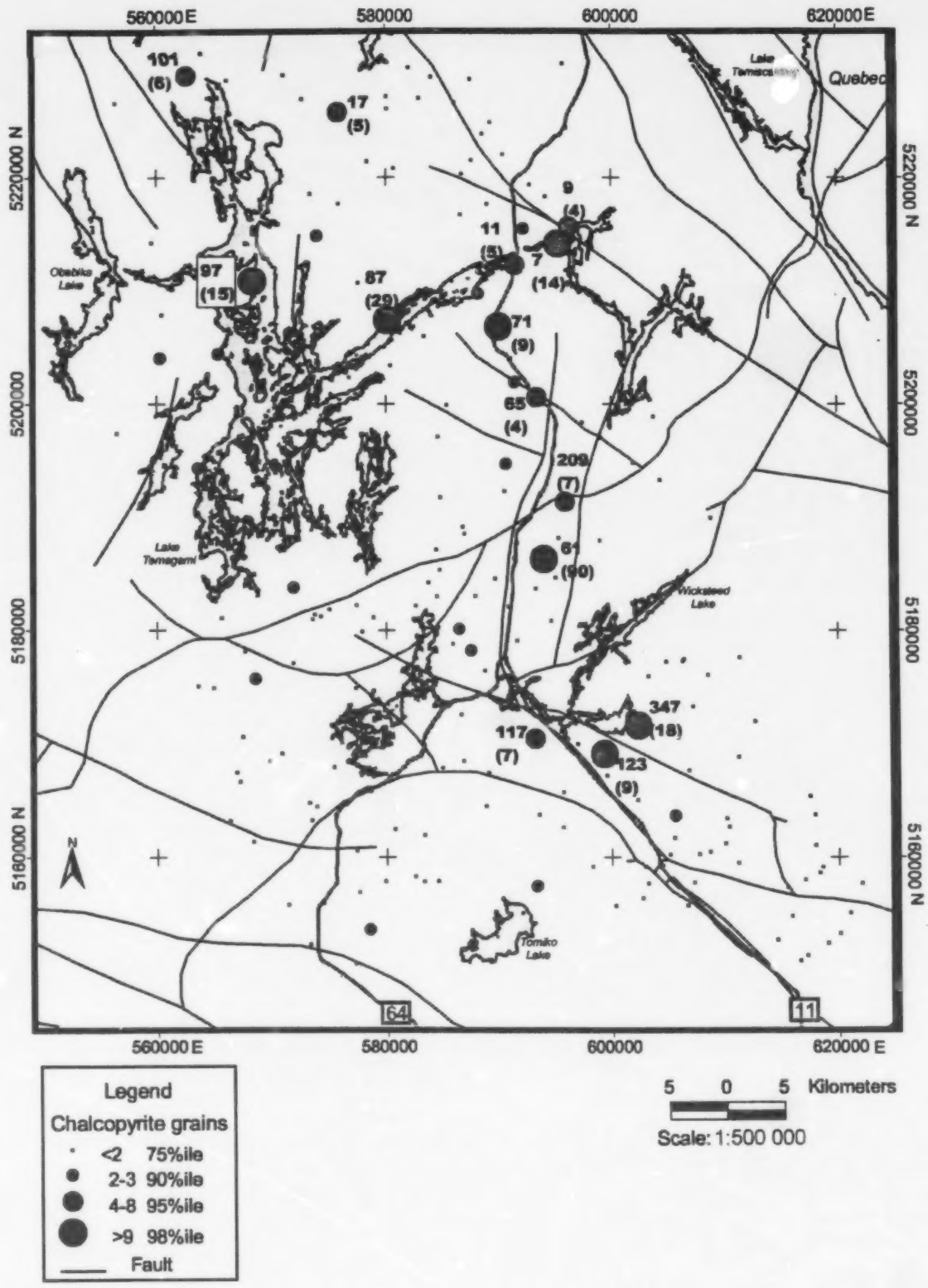


Figure 43: Regional distribution of chalcopyrite grains. Anomalous sites are labeled with the corresponding number of grains shown in brackets

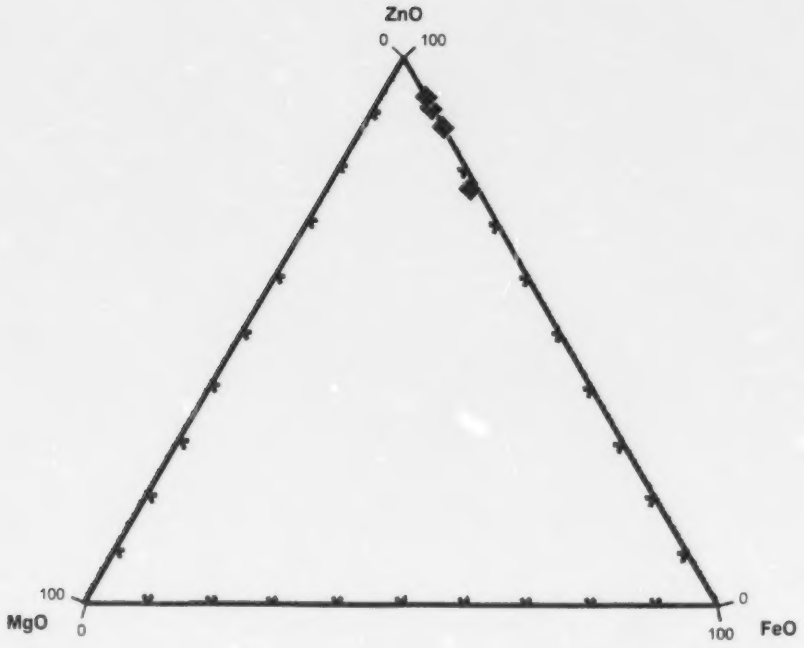


Figure 44: Ternary ZnO/MgO/FeO plot showing the gahnite grain compositions.

presence of pegmatitic rocks in the study area is minimal indicating an alternate source for the gahnites. Analysis of gahnites from the Mattabi VMS deposits display similar compositions to the gahnites recovered in this survey. Metamorphosed VMS occurrences are more likely to be the source of the gahnites found in the study area.

GOLD

Gold grains recovered from the samples were classified according to their physical appearance in the categories: pristine, modified or reshaped. Gold, being malleable, will change shape as it is transported by a stream or glacial ice. Reshaped grains are flattened or rounded, retaining little or none of their original form. Longer transportation is inferred from the alteration in appearance, which indicates derivation from a distal source. Modified grains retain the original shape but have irregular edges and crumped or curled protrusions. Gold grains that have remained pristine occur as angular wires, rods, leaves and retain primary textures such as crystal faces or grain moulds. This lack of deformation suggests proximity to source, however, transported sulphide material containing fine, particulate gold may have weathered *in situ* to release the pristine grains.

In general, the gold grain counts recovered represent background signatures, containing no more than 2 grains per sample. Only 16 samples were considered anomalous, 10 in the 95th percentile (3-6 grains) and 6 in the 98th percentile (>7 grains) (Figure 45). In all samples grains were primarily reshaped or modified, only a few pristine grains were reported (Table 8). The predominance of altered grain forms suggests that the gold has traveled an extensive distance from source. A cluster of samples (179 to 187) located on Cassels/Rabbit Lake are likely derived from quartz-carbonate veins related to any or all of the following: the upper margin of the Nipissing diabase; the contact of the Nipissing Diabase and the lower part of the Coleman Member of the Gowganda Formation; and areas where the Coleman Member underlies the diabase and overlies Archean sulphide-bearing felsic or mafic metavolcanic rocks. Veins of this type, displaying anomalous values of Cu, Co, Ag (Au and Ni mineralization have been reported in the area and surrounding locations (Born 1989; Smyk et al. 1997). These mechanisms likely explain the presence of the anomalies in the north-northwest (samples 93 and 97).

Sample Number	Number of Visible Gold Grains				Rock Type
	Total	Reshaped	Modified	Pristine	
98th percentile					
171-MA-00SA	26	24	2	0	MS
179-MA-00SA	9	7	1	1	ND/HSG
183-MA-00SA	18	17	0	1	ND/HSG
187-MA-00SA	15	12	3	0	ND/HSG
291-MA-00SA	55	51	1	3	MS/Gn
449-MA-00SA	7	7	0	0	MS
95th percentile					
93-MA-00SA	5	5	0	0	MV
95-MA-00SA	3	3	0	0	ND
97-MA-00SA	4	3	1	0	HSG
181-MA-00SA	3	0	3	0	ND/HSG
185-MA-00SA	3	2	1	0	ND/HSG
191-MA-00SA	4	3	1	0	FI/MS
305-MA-00SA	3	1	0	2	MS/MUI
331-MA-00SA	4	4	0	0	MS
387-MA-00SA	3	3	0	0	MS/FI
453-MA-00SA	3	3	0	0	MS/MUI

Table 8: Summary of anomalous gold grain sites (Abbreviations of Rock types: FI-felsic intrusive; MV-metavolcanic; MS-metasediments; Gn-Gneiss ND-Nipissing Diabase; HSG-Huronian Supergroup; MUI-Mafic& Ultramafic Intrusives)

The anomalous values reported in the southwestern section of the area along Hwy 64 (samples 171, 291, 305, 449), may be derived from several pods of mafic intrusions that are present. The presence of gold could be related to minor base metal mineralization that is presumed to exist in association with quartzofeldsphathic gneisses and amphibolites (Easton and Fyon 1991). Additionally, this mechanism could account for the anomalous sites in the south-southeastern part of the area (samples 331and 387).

The anomaly in the central section (sample 191) occurs along a fault. Hydrothermally precipitated gold is associated with structural lineaments that serve as conduits for fluid flow. Emplacement of intrusives may have released fluids that scavenged the metavolcanics and overlying sediments in the area, depositing them in the vicinity. The study area has a strong structural control thus providing numerous pathways for fluids containing any amount of gold. Gold is also thought to possibly be associated with breccia zones present within Archean mafic intrusives. No known mineralization has been reported, but the potential does exist (Smyk et al. 1997). However, the reshaped nature of the grains indicates likely derivation from the Archean metavolcanic belts to the north with subsequent glacial transport.

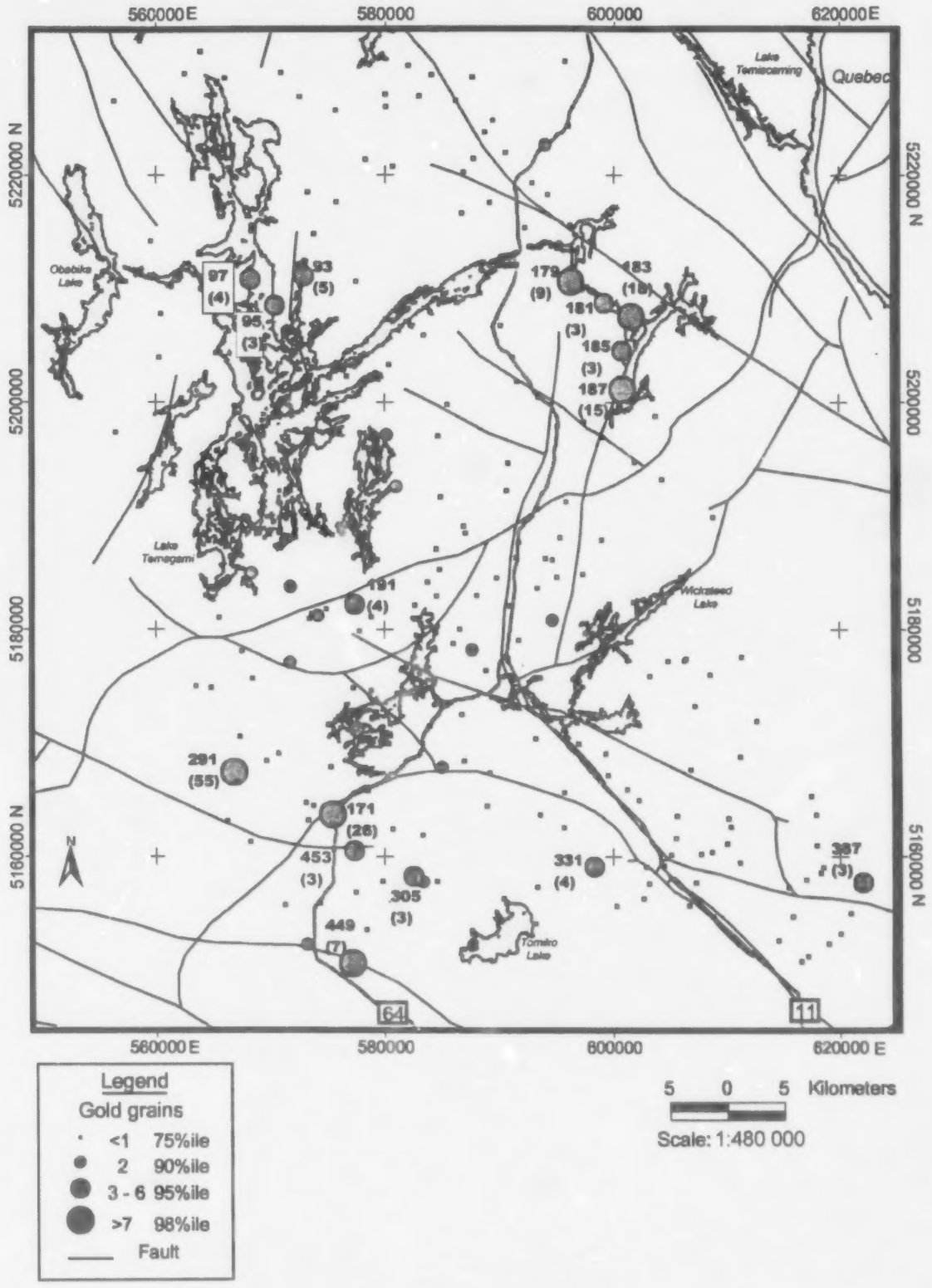


Figure 45: Regional distribution of gold grains. Anomalous sites are labeled with the corresponding number of grains shown in brackets.

CONCLUSIONS

Kimberlites and Related Rocks

The medium sampled in this survey, modern alluvium and the heavy mineral concentrates derived from those samples, provides an outline of the regional distribution of kimberlitic or related rock indicator minerals. The 4 km^2 spacing of the samples is too widely spaced to precisely locate the source(s) of the heavy mineral signatures observed. The objective of the survey was fulfilled and the results indicate that the potential for kimberlite or related rock in the region is highly probable. Several facts contribute to this conclusion: the numbers of KIMs recovered is greater than average background amounts; the good representation of the most significant diamond indicators, G10s and DI chromites, that occur in samples with a variety of other KIMs; the highly faulted character and structurally controlled nature of the study area and the close spatial association of the Lake Timiskaming Structural Zone, believed to be associated with kimberlites already discovered north of the study area. For these reasons, further, more detailed exploration is warranted and strongly recommended. The anomalous areas identified should be sampled at a higher density and till sampling should be undertaken. Till sampling delineates source derivation more clearly than stream sediment sampling. Dispersal trains can be identified and, given that ice directions are well defined, the source(s) could be pinpointed with greater certainty.

Base Metal and Gold

The discovery and exploitation of the Temagami Island and Kanichee mines in the last century prompted exploration in the region for base metals. The anomalies outlined in this survey may be representative of areas already targeted and surveyed for magmatic and /or volcanogenic massive sulphide deposits, that resulted in the discovery of uneconomic mineralization. Nevertheless, any previously unexplored terrain warrants further investigation to potentially reveal the exact source(s) of the signatures.

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Appendix A

Sample Site Locations

SAMPLE NUMBER	UTM	
	EASTING	NORTHING
1-MA-00SA	595695	5229258
3-MA-00SA	596012	5223672
5-MA-00SA	593973	5222000
7-MA-00SA	595277	5213630
9-MA-00SA	596246	5215141
11-MA-00SA	591531	5211738
13-MA-00SA	571298	5228290
15-MA-00SA	572900	5226191
17-MA-00SA	576000	5225035
19-MA-00SA	580273	5226412
21-MA-00SA	582185	5228881
23-MA-00SA	583100	5226244
25-MA-00SA	589386	5224142
27-MA-00SA	580903	5220157
29-MA-00SA	578584	5220770
31-MA-00SA	580304	5225323
33-MA-00SA	584145	5228109
35-MA-00SA	587632	5227902
37-MA-00SA	577151	5204250
39-MA-00SA	584141	5207608
41-MA-00SA	588375	5209273
43-MA-00SA	591556	5201655
45-MA-00SA	590795	5194575
47-MA-00SA	590693	5192204
49-MA-00SA	591778	5187766
51-MA-00SA	593372	5190592
53-MA-00SA	595151	5197762
55-MA-00SA	586962	5189116
57-MA-00SA	587139	5188501
59-MA-00SA	594716	5186241
61-MA-00SA	594085	5186340
63-MA-00SA	597486	5198149
65-MA-00SA	593438	5200315
67-MA-00SA	591197	5203703
69-MA-00SA	592260	5214910
71-MA-00SA	590148	5206420
73-MA-00SA	590985	5182237
75-MA-00SA	591543	5186441
77-MA-00SA	583566	5205591
79-MA-00SA	580636	5203086
81-MA-00SA	563033	5211770
83-MA-00SA	565690	5206783
85-MA-00SA	565733	5204079
87-MA-00SA	580370	5206990
89-MA-00SA	576115	5206979
91-MA-00SA	572226	5207043
93-MA-00SA	573254	5210656
95-MA-00SA	570764	5208145
97-MA-00SA	568635	5210359
99-MA-00SA	564389	5230158

SAMPLE NUMBER	UTM	
	EASTING	NORTHING
101-MA-00SA	562996	5228217
103-MA-00SA	566476	5227835
105-MA-00SA	586213	5225871
107-MA-00SA	586782	5216132
109-MA-00SA	588916	5176651
111-MA-00SA	584087	5171808
113-MA-00SA	587017	5168813
115-MA-00SA	589234	5167787
117-MA-00SA	593264	5170736
119-MA-00SA	590817	5177683
121-MA-00SA	597035	5170286
123-MA-00SA	599400	5169457
125-MA-00SA	600324	5156281
127-MA-00SA	603201	5158175
129-MA-00SA	604470	5159754
131-MA-00SA	577019	5202065
133-MA-00SA	569322	5217466
135-MA-00SA	571019	5222181
137-MA-00SA	569484	5224142
139-MA-00SA	563716	5219177
141-MA-00SA	562525	5224084
143-MA-00SA	565545	5221310
145-MA-00SA	564860	5183122
147-MA-00SA	568756	5185005
149-MA-00SA	564178	5187367
151-MA-00SA	563890	5191015
153-MA-00SA	564003	5194183
155-MA-00SA	567210	5192240
157-MA-00SA	566247	5196719
159-MA-00SA	575771	5188342
161-MA-00SA	574644	5190905
163-MA-00SA	570334	5188403
165-MA-00SA	569500	5190300
167-MA-00SA	567335	5199441
169-MA-00SA	575645	5168274
171-MA-00SA	575740	5164135
173-MA-00SA	575888	5161183
175-MA-00SA	574675	5156515
177-MA-00SA	578866	5166187
179-MA-00SA	596238	5210236
181-MA-00SA	599176	5208353
183-MA-00SA	601590	5207193
185-MA-00SA	600776	5204228
187-MA-00SA	600855	5200945
189-MA-00SA	603491	5200157
191-MA-00SA	577666	5182320
193-MA-00SA	579678	5186230
195-MA-00SA	581200	5192525
197-MA-00SA	580399	5196972
199-MA-00SA	577795	5194187

Appendix C

Summary of Kimberlite Indicator Mineral Counts

Summary List of Abbreviations:

KIM:	Kimberlite Indicator Mineral
Diop.:	diopside
GP:	Pyrope Garnet
GO:	Eclogitic Garnet
DC:	Chrome Diopside
IM:	Ilmenite
CR:	Chromite
FO:	Forsteritic Olivine
(p)	amount of grains picked from sample
(e)	amount of grains estimated to be in sample

** For samples 463 & 465, the 0.25 to 1 mm fractions were accidentally combined at Overburden Drilling Management.

	Selected Pseudo KIMS				KIM Count																			
SAMPLE NUMBER	1.0-2.0 mm	0.5-1.0 mm	0.25- 0.5 mm		1.0 to 2.0 mm						0.5 TO 1.0 mm						0.25 to 0.5 mm							
	Low-Cr Diop.	Low-Cr Diop.	Low Cr-(p)	Diop. (e)	GP	GO	DC	IM	CR	FO	GP	GO	DC	IM	CR	FO	GP	GO	DC	IM (p)	IM (e)	CR (p)	CR (e)	FO
1-MA-00SA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	1	0	0
3-MA-00SA	0	0	3	0	0	0	0	0	0	0	0	0	0	3	0	1	2	3	0	3	0	7	0	1
5-MA-00SA	0	0	1	0	0	0	0	0	0	0	1	1	0	10	0	0	20	10	1	10	25	8	0	0
7-MA-00SA	0	0	5	0	0	0	0	1	0	0	1	0	0	0	1	2	3	2	0	0	0	7	0	0
9-MA-00SA	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11-MA-00SA	0	0	3	0	1	0	0	1	0	0	1	0	0	15	0	0	11	3	0	15	30	13	0	0
13-MA-00SA	0	0	28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
15-MA-00SA	No	Sample	0	0	No Sample						No Sample						0	0	0	0	0	0	0	0
17-MA-00SA	0	0	3	0	0	0	0	0	0	0	0	0	0	3	0	0	1	0	1	2	0	6	0	0
19-MA-00SA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21-MA-00SA	No	Sample	0	0	No Sample						No Sample						0	0	0	0	0	0	0	0
23-MA-00SA	0	0	5	0	0	0	0	0	0	0	1	0	4	0	0	0	1	3	0	25	50	6	0	0
25-MA-00SA	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	4	0	3	0	0	0	0
27-MA-00SA	0	0	30	0	0	0	0	1	0	0	1	2	0	4	0	0	4	3	1	20	50	20	30	0
29-MA-00SA	0	0	2	0	0	0	0	0	0	0	0	0	1	0	0	0	3	1	0	0	0	10	0	0
31-MA-00SA	0	0	3	0	0	0	0	0	0	0	2	1	0	3	1	0	1	2	0	2	0	14	0	0
33-MA-00SA	0	0	1	0	1	1	0	5	0	0	1	0	0	19	1	0	0	0	0	12	0	10	0	0
35-MA-00SA	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	3	2	0	0	2	0	0
37-MA-00SA	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	1	1	0	3	0	0
39-MA-00SA	0	0	9	0	0	0	0	0	0	0	2	3	0	4	0	0	2	2	0	3	0	11	0	0
41-MA-00SA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
43-MA-00SA	0	0	9	0	0	0	0	0	0	0	2	0	0	3	0	0	6	1	0	0	0	15	0	0
45-MA-00SA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47-MA-00SA	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49-MA-00SA	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0
51-MA-00SA	No	Sample	0	0	No Sample						No Sample						0	0	0	0	0	0	0	0
53-MA-00SA	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	2	0	0
55-MA-00SA	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	15	1	1	7	0	0	0	0
57-MA-00SA	0	0	3	0	0	0	0	0	0	0	3	1	0	8	0	0	24	6	0	40	50	6	0	0
59-MA-00SA	0	0	14	0	0	0	0	0	0	0	2	0	0	1	0	0	18	2	0	5	0	7	0	0

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SAMPLE NUMBER	UTM	
	EASTING	NORTHING
1-MA-00SA	595695	5229258
3-MA-00SA	596012	5223672
5-MA-00SA	593973	5222000
7-MA-00SA	595277	5213630
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15-MA-00SA	572900	5226191
17-MA-00SA	576000	5225035
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23-MA-00SA	583100	5226244
25-MA-00SA	589386	5224142
27-MA-00SA	580903	5220157
29-MA-00SA	578584	5220770
31-MA-00SA	580304	5225323
33-MA-00SA	584145	5228109
35-MA-00SA	587632	5227902
37-MA-00SA	577151	5204250
39-MA-00SA	584141	5207608
41-MA-00SA	588375	5209273
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51-MA-00SA	593372	5190592
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61-MA-00SA	594085	5186340
63-MA-00SA	597486	5198149
65-MA-00SA	593438	5200315
67-MA-00SA	591197	5203703
69-MA-00SA	592260	5214910
71-MA-00SA	590148	5206420
73-MA-00SA	590985	5182237
75-MA-00SA	591543	5186441
77-MA-00SA	583566	5205591
79-MA-00SA	580636	5203086
81-MA-00SA	563033	5211770
83-MA-00SA	565690	5206783
85-MA-00SA	565733	5204079
87-MA-00SA	580370	5206990
89-MA-00SA	576115	5206979
91-MA-00SA	572226	5207043
93-MA-00SA	573254	5210656
95-MA-00SA	570764	5208145
97-MA-00SA	568635	5210359
99-MA-00SA	564389	5230158

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107-MA-00SA	586782	5216132
109-MA-00SA	588916	5176651
111-MA-00SA	584087	5171808
113-MA-00SA	587017	5168813
115-MA-00SA	589234	5167787
117-MA-00SA	593264	5170736
119-MA-00SA	590817	5177683
121-MA-00SA	597035	5170286
123-MA-00SA	599400	5169457
125-MA-00SA	600324	5156281
127-MA-00SA	603201	5158175
129-MA-00SA	604470	5159754
131-MA-00SA	577019	5202065
133-MA-00SA	569322	5217466
135-MA-00SA	571019	5222181
137-MA-00SA	569484	5224142
139-MA-00SA	563716	5219177
141-MA-00SA	562525	5224084
143-MA-00SA	565545	5221310
145-MA-00SA	564860	5183122
147-MA-00SA	568756	5185005
149-MA-00SA	564178	5187367
151-MA-00SA	563890	5191015
153-MA-00SA	564003	5194183
155-MA-00SA	567210	5192240
157-MA-00SA	566247	5196719
159-MA-00SA	575771	5188342
161-MA-00SA	574644	5190905
163-MA-00SA	570334	5188403
165-MA-00SA	569500	5190300
167-MA-00SA	567335	5199441
169-MA-00SA	575645	5168274
171-MA-00SA	575740	5164135
173-MA-00SA	575888	5161183
175-MA-00SA	574675	5156515
177-MA-00SA	578866	5166187
179-MA-00SA	596238	5210236
181-MA-00SA	599176	5208353
183-MA-00SA	601590	5207193
185-MA-00SA	600776	5204228
187-MA-00SA	600855	5200945
189-MA-00SA	603491	5200157
191-MA-00SA	577666	5182320
193-MA-00SA	579678	5186230
195-MA-00SA	581200	5192525
197-MA-00SA	580399	5196972
199-MA-00SA	577795	5194187

FR

SAMPLE NUMBER	UTM	
	EASTING	NORTHING
201-MA-00SA	578061	5200504
203-MA-00SA	608785	5189900
205-MA-00SA	604300	5193185
207-MA-00SA	601932	5194675
209-MA-00SA	595916	5191261
211-MA-00SA	585578	5199648
213-MA-00SA	584791	5196928
215-MA-00SA	559062	5190877
217-MA-00SA	560194	5195045
219-MA_00SA	562727	5200162
221-MA-00SA	560762	5203684
223-MA-00SA	556981	5197193
225-MA-00SA	553975	5200223
227-MA-00SA	557858	5210180
229-MA-00SA	555644	5215871
231-MA-00SA	553674	5220189
233-MA-00SA	556875	5225890
235-MA-00SA	560936	5207451
237-MA-00SA	560047	5213735
239-MA-00SA	574169	5214328
241-MA-00SA	573645	5217959
243-MA-00SA	576097	5217097
245-MA-00SA	577818	5210246
247-MA-00SA	590522	5221355
249-MA-00SA	589154	5217075
251-MA-00SA	603751	5198654
253-MA-00SA	599132	5196837
255-MA-00SA	599027	5187961
257-MA-00SA	595377	5188141
259-MA-00SA	608741	5155336
261-MA-00SA	605133	5160671
263-MA-00SA	586815	5172850
265-MA-00SA	589403	5174366
267-MA-00SA	575418	5171951
269-MA-00SA	577576	5175118
271-MA-00SA	580635	5170295
273-MA-00SA	579136	5174942
275-MA-00SA	584521	5174399
277-MA-00SA	582736	5181149
279-MA-00SA	586105	5178975
281-MA-00SA	582680	5177820
283-MA-00SA	563979	5175295
285-MA-00SA	565297	5175123
287-MA-00SA	567965	5178288
289-MA-00SA	567741	5170919
291-MA-00SA	567212	5167789
293-MA-00SA	571080	5169433
295-MA-00SA	570067	5168817
297-MA-00SA	567513	5167011
299-MA-00SA	568627	5161802

SAMPLE NUMBER	UTM	
	EASTING	NORTHING
301-MA-00SA	584729	5158381
303-MA-00SA	583496	5158353
305-MA-00SA	582716	5158796
307-MA-00SA	580931	5162913
309-MA-00SA	580100	5158400
311-MA-00SA	577829	5157420
313-MA-00SA	571619	5156355
315-MA-00SA	573450	5165182
317-MA-00SA	574112	5164853
319-MA-00SA	573685	5163645
321-MA-00SA	595741	5166061
323-MA-00SA	595691	5163068
325-MA-00SA	593615	5164159
327-MA-00SA	588970	5164916
329-MA-00SA	583525	5162380
331-MA-00SA	598340	5159627
333-MA-00SA	602704	5156909
335-MA-00SA	602948	5159628
337-MA-00SA	606627	5156289
339-MA-00SA	606280	5177511
341-MA-00SA	606408	5177665
343-MA-00SA	604823	5177456
345-MA-00SA	603251	5176189
347-MA-00SA	602367	5171886
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353-MA-00SA	591665	5173454
355-MA-00SA	605974	5184721
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361-MA-00SA	601620	5179128
363-MA-00SA	599720	5182412
365-MA-00SA	597615	5179904
367-MA-00SA	596608	5175920
369-MA-00SA	617299	5165738
371-MA-00SA	617726	5164161
373-MA-00SA	617786	5161492
375-MA-00SA	618380	5159596
377-MA-00SA	618147	5159119
379-MA-00SA	616879	5158494
381-MA-00SA	615327	5157811
383-MA-00SA	615688	5155335
385-MA-00SA	614464	5153266
387-MA-00SA	621798	5158201
389-MA-00SA	620762	5155617
391-MA-00SA	619875	5153865
393-MA-00SA	618838	5153009
395-MA-00SA	617015	5151910
397-MA-00SA	616426	5151458
399-MA-00SA	578125	5180011

SAMPLE NUMBER	UTM	
	EASTING	NORTHING
401-MA-00SA	579152	5181266
403-MA-00SA	582838	5182289
405-MA-00SA	586650	5180250
407-MA-00SA	587668	5178387
409-MA-00SA	597413	5184994
411-MA-00SA	595100	5184750
413-MA-00SA	593387	5183762
415-MA-00SA	594227	5217699
417-MA-00SA	592843	5218751
419-MA-00SA	588708	5223125
421-MA-00SA	587738	5220833
423-MA-00SA	586902	5219668
425-MA-00SA	594700	5180997
427-MA-00SA	591778	5179255
429-MA-00SA	572101	5177285
431-MA-00SA	573777	5181122
433-MA-00SA	573979	5181520
435-MA-00SA	574491	5181350
437-MA-00SA	575215	5181955
439-MA-00SA	572110	5183825
441-MA-00SA	568830	5175925
443-MA-00SA	565995	5181185
445-MA-00SA	566681	5163635
447-MA-00SA	573512	5152924
449-MA-00SA	577479	5151240
451-MA-00SA	578736	5154204
453-MA-00SA	577621	5160988
455-MA-00SA	585119	5168200
457-MA-00SA	607170	5173545
459-MA-00SA	608481	5176294
461-MA-00SA	610111	5163838
463-MA-00SA	610314	5163110
465-MA-00SA	609991	5161667
467-MA-00SA	611112	5159956
469-MA-00SA	608643	5160941
471-MA-00SA	607680	5160736
473-MA-00SA	607245	5158291
475-MA-00SA	599625	5167566
477-MA-00SA	601300	5166345
479-MA-00SA	602298	5165415
481-MA-00SA	605585	5164065
483-MA-00SA	605516	5162123
485-MA-00SA	589850	5184635
487-MA-00SA	588106	5183118
489-MA-00SA	584641	5187161
491-MA-00SA	584941	5185382
493-MA-00SA	583903	5184280
495-MA-00SA	584675	5183100
497-MA-00SA	587701	5154137
499-MA-00SA	590305	5155070

SAMPLE NUMBER	UTM	
	EASTING	NORTHING
501-MA-00SA	590453	5156898
503-MA-00SA	593203	5154727
505-MA-00SA	593391	5157924
507-MA-00SA	611133	5169171
509-MA-00SA	612615	5172260
511-MA-00SA	611280	5177827
513-MA-00SA	606791	5167987
515-MA-00SA	584997	5191673

SAMPLE NUMBER	Selected Pseudo KIMS				KIM Count																			
	1.0-2.0 mm	0.5-1.0 mm	0.25- 0.5 mm		1.0 to 2.0 mm						0.5 TO 1.0 mm						0.25 to 0.5 mm							
	Low-Cr Diop.	Low-Cr Diop.	Low Cr-(p)	Diop. (e)	GP	GO	DC	IM	CR	FO	GP	GO	DC	IM	CR	FO	GP	GO	DC	IM (p)	IM (e)	CR (p)	CR (e)	FO
61-MA-00SA	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	3	1	0	0	0	0	0	0
63-MA-00SA	0	0	20	0	0	0	0	0	0	0	0	0	0	0	0	0	7	0	0	6	0	2	0	0
65-MA-00SA	0	0	13	0	0	0	0	0	0	0	0	0	0	0	0	0	5	1	2	2	0	1	0	1
67-MA-00SA	No Sample	0	0	0	No Sample						0	0	0	0	0	0	0	0	0	0	0	0	0	0
69-MA-00SA	0	0	6	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	10	0	12	0	0
71-MA-00SA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	3	0	0	0	0
73-MA-00SA	No	Sample	0	0	No Sample						No Sample						0	0	0	0	0	0	0	0
75-MA-00SA	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
77-MA-00SA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
79-MA-00SA	0	2	7	0	0	0	0	2	0	0	0	0	0	20	2	0	0	0	0	12	0	8	0	0
81-MA-00SA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
83-MA-00SA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
85-MA-00SA	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
87-MA-00SA	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	2	0	2	0	0
89-MA-00SA	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0
91-MA-00SA	No	Sample	0	0	No Sample						No Sample						0	0	0	0	0	0	0	0
93-MA-00SA	0	0	9	0	0	0	0	0	0	0	3	1	0	4	2	0	8	5	3	10	30	35	60	1
95-MA-00SA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	3	0	0	0	0	0
97-MA-00SA	0	0	17	0	0	0	0	0	0	0	0	0	0	0	0	0	7	2	2	2	0	12	0	0
99-MA-00SA	0	0	2	0	0	0	0	0	0	0	0	1	0	0	0	0	11	1	3	0	0	9	20	0
101-MA-00SA	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	3	1	2	0	0	0	0	0
103-MA-00SA	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0
105-MA-00SA	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	1	0	0
107-MA-00SA	No	Sample	0	0	No Sample						No Sample						0	0	0	0	0	0	0	0
109-MA-00SA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
111-MA-00SA	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
113-MA-00SA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0	0	0	0
115-MA-00SA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0
117-MA-00SA	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	2	0	1	1	0	0	0	0
119-MA-00SA	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	7	0	1	1	5	31	100	0

	Selected Pseudo KIMS				KIM Count																			
SAMPLE NUMBER	1.0-2.0 mm	0.5-1.0 mm	0.25- 0.5 mm		1.0 to 2.0 mm						0.5 TO 1.0 mm						0.25 to 0.5 mm							
	Low-Cr Diop.	Low-Cr Diop.	Low Cr-(p)	Diop. (e)	GP	GO	DC	IM	CR	FO	GP	GO	DC	IM	CR	FO	GP	GO	DC	IM (p)	IM (e)	CR (p)	CR (e)	FO
121-MA-00SA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
123-MA-00SA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	0	0	0	0	0	4
125-MA-00SA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
127-MA-00SA	0	0	3	0	0	0	0	0	0	0	0	0	0	1	0	0	8	0	1	0	0	1	0	0
129-MA-00SA	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	4	0	0	0	0	1	0	0
131-MA-00SA	0	0	1	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	1	0	4	0	0
133-MA-00SA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
135-MA-00SA	0	0	21	40	0	0	0	0	0	0	0	0	0	0	0	0	11	10	1	0	0	3	0	0
137-MA-00SA	0	0	20	50	0	0	0	0	0	0	2	1	0	1	0	0	17	5	1	0	0	70	400	2
139-MA-00SA	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	4	1	2	0	0	1	0	0
141-MA-00SA	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	2	0	0
143-MA-00SA	0	0	0	0	0	0	0	0	0	0	1	2	0	0	0	0	4	1	0	0	0	14	0	0
145-MA-00SA	0	1	3	0	0	0	0	0	0	0	0	0	0	1	0	0	1	2	3	0	0	15	0	0
147-MA-00SA	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	5	2	2	0	0	4	0	0
149-MA-00SA	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0
151-MA-00SA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
153-MA-00SA	0	0	9	0	0	0	0	0	0	0	0	0	0	1	0	0	2	0	0	4	0	4	0	0
155-MA-00SA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	1	0	0
157-MA-00SA	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0
159-MA-00SA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0
161-MA-00SA	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0
163-MA-00SA	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
165-MA-00SA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
167-MA-00SA	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	1	0	0
169-MA-00SA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
171-MA-00SA	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	8	0	6	0	0
173-MA-00SA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
175-MA-00SA	No Sample	0	0	0	No Sample						0	0	0	0	0	0	0	0	0	0	0	0	0	0
177-MA-00SA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
179-MA-00SA	0	0	9	0	0	0	0	0	0	0	1	0	0	0	0	0	3	0	0	0	0	0	0	0

	Selected Pseudo KIMS				KIM Count																		
SAMPLE NUMBER	1.0-2.0 mm	0.5-1.0 mm	0.25- 0.5 mm		1.0 to 2.0 mm						0.5 TO 1.0 mm						0.25 to 0.5 mm						
	Low-Cr Diop.	Low-Cr Diop.	Low Cr-(p)	Diop. (e)	GP	GO	DC	IM	CR	FO	GP	GO	DC	IM	CR	FO	GP	GO	DC	IM (p)	IM (e)	CR (p)	CR (e)	FO
181-MA-00SA	0	1	11	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0	1	0	0	2	0	0
183-MA-00SA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0	0	0	0
185-MA-00SA	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	3	0	0
187-MA-00SA	0	0	2	0	0	0	0	0	0	0	0	0	0	2	0	0	14	2	4	1	0	1	0	0
189-MA-00SA	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	20	0	0	0	0	2	0	0
191-MA-00SA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	7	0	0
193-MA-00SA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
195-MA-00SA	0	1	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	3	0	0
197-MA-00SA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0
199-MA-00SA	0	0	5	0	0	0	0	0	0	0	1	0	0	1	1	0	13	0	1	8	0	5	0	1
201-MA-00SA	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
203-MA-00SA	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
205-MA-00SA	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	1	6	0	3	0	0
207-MA-00SA	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0
209-MA-00SA	0	0	12	0	0	0	0	0	0	0	0	0	0	2	0	0	11	0	0	0	0	5	0	0
211-MA-00SA	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	30	0	0
213-MA-00SA	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	4	3	0	0	0	0	0	0
215-MA-00SA	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	1	0	0	1	0	0
217-MA-00SA	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0
219-MA_00SA	No	Sample	0	0	No Sample						No Sample						0	0	0	0	0	0	0	0
221-MA-00SA	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0
223-MA-00SA	No Sample	0	0	0	No Sample						0	0	0	0	0	0	0	0	0	0	0	0	0	0
225-MA-00SA	0	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	8	2	0	0	0	9	0	0
227-MA-00SA	No	Sample	0	0	No Sample						No Sample						0	0	0	0	0	0	0	0
229-MA-00SA	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	9	1	4	0	0	3	0	0
231-MA-00SA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
233-MA-00SA	0	0	10	0	0	0	0	0	0	0	2	0	1	0	0	0	6	0	2	0	0	6	0	0
235-MA-00SA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0
237-MA-00SA	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
239-MA-00SA	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	3	1	1	0	0	9	0	0

SAMPLE NUMBER	Selected Pseudo KIMS				KIM Count																			
	1.0-2.0 mm	0.5-1.0 mm	0.25- 0.5 mm		1.0 to 2.0 mm						0.5 TO 1.0 mm						0.25 to 0.5 mm							
	Low-Cr Diop.	Low-Cr Diop.	Low Cr-(p)	Diop. (e)	GP	GO	DC	IM	CR	FO	GP	GO	DC	IM	CR	FO	GP	GO	DC	IM (p)	IM (e)	CR (p)	CR (e)	FO
241-MA-00SA	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0
243-MA-00SA	0	0	4	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	6	10	0
245-MA-00SA	0	0	13	0	0	0	0	0	0	0	0	0	0	0	0	0	7	0	1	1	0	1	0	0
247-MA-00SA	No Sample	0	0	0	No Sample						0	0	0	0	0	0	0	0	0	0	0	0	0	0
249-MA-00SA	0	0	1	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	1	0	0	4	0	0
251-MA-00SA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0
253-MA-00SA	No	Sample	0	0	No Sample						No Sample						0	0	0	0	0	0	0	0
255-MA-00SA	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0
257-MA-00SA	No Sample	0	0	0	No Sample						0	0	0	0	0	0	1	0	0	0	0	1	0	0
259-MA-00SA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
261-MA-00SA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0
263-MA-00SA	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	4	0	0
265-MA-00SA	0	0	4	0	0	0	0	0	0	0	1	0	0	0	0	2	2	0	0	0	0	0	0	7
267-MA-00SA	0	0	4	0	0	0	0	0	0	0	1	0	0	0	0	0	3	0	0	2	0	6	0	0
269-MA-00SA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0
271-MA-00SA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
273-MA-00SA	No Sample	0	0	0	No Sample						0	0	0	0	0	0	0	0	0	0	0	0	0	0
275-MA-00SA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
277-MA-00SA	No Sample	0	0	0	No Sample						0	0	0	0	0	0	0	0	0	0	0	0	0	0
279-MA-00SA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0
281-MA-00SA	No Sample	0	0	0	No Sample						0	0	0	0	0	0	0	0	0	0	0	0	0	0
283-MA-00SA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
285-MA-00SA	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	2	0	2	0	0
287-MA-00SA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
289-MA-00SA	No Sample	0	0	0	No Sample						0	0	0	0	0	0	0	0	0	0	0	0	0	0
291-MA-00SA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	5	0	0
293-MA-00SA	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
295-MA-00SA	0	0	0	0	0	0	0	0	0	0	1	0	0	2	0	0	2	0	0	0	0	0	0	0

	Selected Pseudo KIMS				KIM Count																			
SAMPLE NUMBER	1.0-2.0 mm	0.5-1.0 mm	0.25- 0.5 mm		1.0 to 2.0 mm						0.5 TO 1.0 mm						0.25 to 0.5 mm							
	Low-Cr Diop.	Low-Cr Diop.	Low Cr-(p)	Diop. (e)	GP	GO	DC	IM	CR	FO	GP	GO	DC	IM	CR	FO	GP	GO	DC	IM (p)	IM (e)	CR (p)	CR (e)	FO
297-MA-00SA	0	0	9	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0
299-MA-00SA	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
301-MA-00SA	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
303-MA-00SA	0	0	5	0	0	0	0	0	0	0	2	0	0	0	0	0	1	0	0	0	0	0	0	0
305-MA-00SA	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	3	1	0	0	0	0	0	0
307-MA-00SA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
309-MA-00SA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
311-MA-00SA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
313-MA-00SA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
315-MA-00SA	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	2	0	0	0	0	0	0	0
317-MA-00SA	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	0	0	0	0	0	0
319-MA-00SA	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
321-MA-00SA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
323-MA-00SA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
325-MA-00SA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
327-MA-00SA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
329-MA-00SA	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0
331-MA-00SA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0
333-MA-00SA	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	1	0	0	0	0	0
335-MA-00SA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
337-MA-00SA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	1	0	0
339-MA-00SA	No Sample	0	0	0	No Sample						0	0	0	0	0	0	0	0	0	0	0	0	0	0
341-MA-00SA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
343-MA-00SA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
345-MA-00SA	No	Sample	0	0	No Sample						No Sample						0	0	0	0	0	0	0	0
347-MA-00SA	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	1	0	0	0	0	0
349-MA-00SA	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
351-MA-00SA	No	Sample	0	0	No Sample						No Sample						0	0	0	0	0	0	0	0
353-MA-00SA	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0
355-MA-00SA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0

SAMPLE NUMBER	Selected Pseudo KIMS				KIM Count																			
	1.0-2.0 mm	0.5-1.0 mm	0.25- 0.5 mm		1.0 to 2.0 mm						0.5 TO 1.0 mm						0.25 to 0.5 mm							
	Low-Cr Diop.	Low-Cr Diop.	Low Cr-(p)	Diop. (e)	GP	GO	DC	IM	CR	FO	GP	GO	DC	IM	CR	FO	GP	GO	DC	IM (p)	IM (e)	CR (p)	CR (e)	FO
357-MA-00SA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	1	0	0	0	0	0
359-MA-00SA	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	3	1	0	0	0	0	0	0
361-MA-00SA	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
363-MA-00SA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0
365-MA-00SA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
367-MA-00SA	0	0	1	0	0	0	0	0	0	0	2	0	0	2	0	0	5	0	0	4	0	6	0	0
369-MA-00SA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
371-MA-00SA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
373-MA-00SA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
375-MA-00SA	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
377-MA-00SA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0
379-MA-00SA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
381-MA-00SA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
383-MA-00SA	No Sample	0	0	0	No Sample						0	0	0	0	0	0	0	0	0	0	0	0	0	0
385-MA-00SA	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
387-MA-00SA	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
389-MA-00SA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
391-MA-00SA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
393-MA-00SA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
395-MA-00SA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
397-MA-00SA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
399-MA-00SA	0	0	2	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	1	0	6	0	0
401-MA-00SA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
403-MA-00SA	0	0	0	0	0	0	0	0	0	0	1	0	0	3	0	0	0	1	0	3	0	2	0	0
405-MA-00SA	0	0	2	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	2	0	0
407-MA-00SA	0	0	11	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0	1	0	1	0	0
409-MA-00SA	0	0	10	0	0	0	0	1	0	0	0	0	0	0	0	0	4	0	0	0	0	3	0	0
411-MA-00SA	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0	2	0	2	0	0
413-MA-00SA	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
415-MA-00SA	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

SAMPLE NUMBER	Selected Pseudo KIMS				KIM Count																			
	1.0-2.0 mm	0.5-1.0 mm	0.25- 0.5 mm		1.0 to 2.0 mm						0.5 TO 1.0 mm						0.25 to 0.5 mm							
	Low-Cr Diop.	Low-Cr Diop.	Low Cr-(p)	Diop. (e)	GP	GO	DC	IM	CR	FO	GP	GO	DC	IM	CR	FO	GP	GO	DC	IM (p)	IM (e)	CR (p)	CR (e)	FO
417-MA-00SA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	1	0	10	0	0	0	0
419-MA-00SA	No Sample	0	4	0	No Sample						0	0	0	0	0	0	0	0	0	0	0	0	0	0
421-MA-00SA	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	1	0	0
423-MA-00SA	0	0	9	0	0	0	0	0	0	0	0	2	0	2	0	0	14	2	1	7	20	20	35	0
425-MA-00SA	No Sample	0	0	0	No Sample						0	0	0	0	0	0	0	0	0	0	0	0	0	0
427-MA-00SA	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	1	0	0
429-MA-00SA	0	0	18	0	0	0	0	0	0	0	0	0	0	0	0	0	7	4	0	4	10	3	10	0
431-MA-00SA	0	0	20	40	0	0	0	0	0	0	2	1	0	3	0	0	25	8	3	20	30	10	15	0
433-MA-00SA	0	1	12	0	0	0	0	0	0	0	0	0	0	0	0	0	31	8	7	4	0	2	0	0
435-MA-00SA	0	0	2	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	4	0	16	0	0
437-MA-00SA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
439-MA-00SA	0	0	1	0	0	0	0	0	0	0	0	0	0	2	2	0	1	0	0	0	0	5	0	0
441-MA-00SA	0	0	6	0	0	1	0	0	0	0	1	0	1	5	4	0	4	4	0	8	0	25	50	0
443-MA-00SA	0	0	2	0	0	0	0	7	0	0	0	0	0	1	0	0	1	1	0	2	0	9	20	0
445-MA-00SA	No Sample	0	0	0	No Sample						0	0	0	0	0	0	0	0	0	0	0	0	0	0
447-MA-00SA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
449-MA-00SA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
451-MA-00SA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	1	0	0	0	0	0	0
453-MA-00SA	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	5	1	1	0	0	0	0	0
455-MA-00SA	No Sample	0	1	0	No Sample						0	0	0	0	0	0	0	0	0	0	0	0	0	0
457-MA-00SA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0	0	0	0	0	0	0
459-MA-00SA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
461-MA-00SA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
463-MA-00SA & 465-MA-00SA **	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
463-MA-00SA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
465-MA-00SA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	

	Selected Pseudo KIMS				KIM Count																			
SAMPLE NUMBER	1.0-2.0 mm	0.5-1.0 mm	0.25- 0.5 mm		1.0 to 2.0 mm						0.5 TO 1.0 mm						0.25 to 0.5 mm							
	Low-Cr Diop.	Low-Cr Diop.	Low Cr-(p)	Diop. (e)	GP	GO	DC	IM	CR	FO	GP	GO	DC	IM	CR	FO	GP	GO	DC	IM (p)	IM (e)	CR (p)	CR (e)	FO
463-MA-00SA (0.18-0.25mm)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
465-MA-00SA (0.18-0.25mm)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
467-MA-00SA	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	6	0	7	0	0
469-MA-00SA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
471-MA-00SA	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0
473-MA-00SA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
475-MA-00SA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
477-MA-00SA	0	1	2	0	0	0	0	0	0	0	1	0	0	0	0	0	5	0	0	1	0	1	0	0
479-MA-00SA	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	1	0	3	0	0
481-MA-00SA	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
483-MA-00SA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	0	1	0	0	0	0	0
485-MA-00SA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
487-MA-00SA	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
489-MA-00SA	0	0	1	0	0	0	0	0	0	0	2	0	0	2	1	0	1	0	0	1	0	11	20	0
491-MA-00SA	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	0	0	0	0
493-MA-00SA	0	0	16	0	0	0	0	0	0	0	0	0	0	0	0	0	9	5	1	1	0	5	0	0
495-MA-00SA	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	16	3	0	1	0	0	0	0
497-MA-00SA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
499-MA-00SA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
501-MA-00SA	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0
503-MA-00SA	0	0	3	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0
505-MA-00SA	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	1	0	0	0	0
507-MA-00SA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	2	0	0
509-MA-00SA	No Sample	0	0	0	No Sample						0	0	0	0	0	0	0	0	0	0	0	0	0	0
511-MA-00SA	No	Sample	0	0	No Sample						No Sample						0	0	0	0	0	0	0	0
513-MA-00SA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0
515-MA-00SA	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1	0	2	0	0	0	0

Appendix E

Summary of Microprobe Data For Indicator Minerals

Summary List Of Abbreviations:

Na:	Sodium	Ni:	Nickel
Mg:	Magnesium	Nb:	Niobium
Al:	Aluminum	V:	Vanadium
Si:	Silicon	Zn:	Zinc
Cr:	Chromium	O:	Oxygen
Mn:	Manganese	Ca:	Calcium
Ti:	Titanium	K:	Potassium
Fe:	Iron		

Sample	SiO2	TiO2	Al2O3	Cr2O3	MgO	CaO	MnO	FeO	Na2O	K2O	Total
Garnets											
G10											
MA-003-02	41.723	0.008	20.668	4.960	22.503	2.483	0.412	6.767	0.009	0.000	99.533
MA-043-34	41.118	0.000	19.454	5.836	20.343	4.745	0.437	6.714	0.017	0.000	98.664
MA-059-49	41.930	0.025	20.111	5.145	22.116	3.082	0.412	6.590	0.018	0.000	99.429
MA-061-01	41.836	0.020	20.105	5.414	20.921	4.628	0.460	6.948	0.019	0.000	100.351
MA-063-04	42.232	0.006	20.656	4.172	22.016	3.474	0.473	6.874	0.012	0.000	99.915
MA-093-02	42.424	0.019	22.427	2.410	21.727	2.975	0.595	7.966	0.020	0.000	100.563
MA-095-01	41.363	0.279	16.647	8.966	20.545	5.594	0.322	5.924	0.041	0.000	99.681
MA-097-04	41.802	0.023	21.013	3.950	22.750	2.624	0.409	6.952	0.014	0.000	99.537
MA-105-01	42.220	0.011	21.431	3.234	21.395	3.607	0.501	7.232	0.010	0.000	99.641
MA-119-07	42.054	0.045	21.349	3.349	21.186	4.057	0.475	7.663	0.019	0.000	100.197
MA-145-01	41.905	0.012	21.118	4.114	21.661	3.633	0.458	7.138	0.014	0.005	100.058
MA-187-10	41.899	0.019	21.306	3.917	22.138	3.563	0.368	6.749	0.012	0.000	99.971
MA-189-12	41.315	0.009	20.053	5.088	21.278	4.368	0.433	6.999	0.008	0.007	99.558
MA-189-14	41.787	0.022	21.333	3.633	22.365	3.152	0.392	6.987	0.017	0.000	99.688
MA-199-27	41.443	0.047	21.654	2.845	20.423	3.677	0.283	9.441	0.017	0.000	99.830
MA-209-01	41.670	0.000	21.136	3.825	21.960	3.441	0.382	7.116	0.014	0.001	99.545
MA-209-09	41.971	0.000	20.722	4.580	22.233	2.774	0.487	7.321	0.012	0.003	100.103
MA-229-09	42.301	0.011	21.850	3.463	22.017	2.677	0.505	7.511	0.015	0.001	100.351
MA-321-01	42.148	0.022	20.551	5.156	21.601	3.526	0.424	6.756	0.003	0.000	100.187
MA-329-01	41.997	0.028	21.216	3.863	22.175	3.110	0.445	7.500	0.026	0.000	100.360
MA-367-05	42.232	0.000	22.386	2.463	23.350	2.218	0.430	6.615	0.004	0.003	99.701
MA-429-06	41.658	0.030	20.376	4.792	20.930	4.509	0.448	7.291	0.019	0.004	100.057
MA-433-17	41.471	0.046	19.813	5.355	20.668	4.682	0.499	7.406	0.009	0.000	99.949
MA-503-05	42.193	0.038	20.467	3.793	22.217	3.603	0.377	6.813	0.023	0.000	99.524
MA-515-01	41.656	0.037	21.108	3.887	21.695	3.840	0.410	7.182	0.039	0.000	99.854
G9											
MA-001-01	41.084	0.609	17.994	6.442	19.244	5.843	0.324	7.579	0.061	0.006	99.186
MA-001-01	41.164	0.617	18.061	6.433	19.327	5.868	0.323	7.615	0.053	0.006	99.467
MA-001-01	41.129	0.592	17.901	6.429	19.550	5.923	0.329	7.610	0.055	0.000	99.518
MA-001-01	41.071	0.630	17.880	6.451	19.570	5.970	0.352	7.638	0.044	0.002	99.608
MA-003-01	41.094	0.884	16.902	7.238	19.971	6.052	0.293	6.788	0.043	0.000	99.265
MA-005-01	41.575	0.523	18.582	5.921	20.625	5.597	0.286	6.199	0.045	0.000	99.353
MA-005-02	41.575	0.525	19.794	4.111	20.606	5.036	0.336	7.167	0.040	0.001	99.191
MA-005-05	41.442	0.209	20.515	4.105	20.083	4.598	0.450	7.954	0.056	0.000	99.412
MA-005-06	41.910	0.372	21.350	2.637	21.133	4.874	0.304	6.902	0.026	0.001	99.509
MA-005-07	41.237	0.418	17.395	7.561	19.941	5.851	0.310	6.291	0.038	0.000	99.042
MA-005-08	41.733	0.393	20.648	3.377	20.766	5.000	0.305	7.097	0.030	0.001	99.350
MA-005-09	41.374	0.350	17.425	7.708	20.101	6.137	0.297	6.214	0.021	0.008	99.635

Sample	SiO2	TiO2	Al2O3	Cr2O3	MgO	CaO	MnO	FeO	Na2O	K2O	Total
MA-005-16	41.397	0.833	19.030	4.890	20.423	5.287	0.302	7.323	0.079	0.000	99.564
MA-005-17	41.074	0.075	19.711	5.481	18.991	5.455	0.467	7.851	0.010	0.000	99.115
MA-005-18	41.757	0.275	21.326	2.945	21.254	4.708	0.320	6.955	0.024	0.000	99.564
MA-005-49	41.407	0.218	19.443	5.461	20.587	5.549	0.268	6.226	0.012	0.000	99.171
MA-007-01	41.795	0.283	21.211	2.690	19.528	4.862	0.444	9.097	0.044	0.004	99.958
MA-007-03	40.934	0.721	18.299	5.607	19.672	5.253	0.320	7.838	0.071	0.001	98.716
MA-007-18	42.261	0.245	21.557	2.757	21.215	4.678	0.311	6.520	0.029	0.005	99.578
MA-011-01	41.620	0.329	20.115	4.734	21.143	5.259	0.304	6.318	0.024	0.000	99.846
MA-011-02	41.763	0.097	20.578	4.447	19.501	5.542	0.462	7.617	0.022	0.000	100.029
MA-011-03	41.991	0.384	21.263	2.486	20.977	4.507	0.282	7.908	0.053	0.003	99.854
MA-011-04	41.568	0.665	16.987	7.818	19.940	6.141	0.294	6.366	0.053	0.004	99.836
MA-011-05	41.335	0.801	19.333	4.329	19.448	4.820	0.329	9.076	0.096	0.000	99.567
MA-011-08	42.201	0.283	20.836	3.289	20.941	5.077	0.304	7.077	0.030	0.002	100.040
MA-011-09	41.650	0.278	18.355	6.588	20.309	5.855	0.304	6.399	0.027	0.007	99.772
MA-011-10	41.420	0.373	18.492	6.613	20.450	5.308	0.361	6.599	0.050	0.004	99.670
MA-011-10d	41.145	0.365	18.479	6.546	20.437	5.282	0.381	6.679	0.048	0.000	99.362
MA-011-10d	41.531	0.371	18.397	6.646	20.372	5.326	0.384	6.685	0.044	0.001	99.757
MA-011-10d	41.640	0.385	18.612	6.546	20.407	5.370	0.349	6.752	0.042	0.000	100.103
MA-011-46	41.172	0.332	17.822	6.857	19.309	5.987	0.316	7.366	0.022	0.003	99.186
MA-017-01	41.454	0.130	20.486	4.554	19.455	5.683	0.449	7.688	0.015	0.012	99.926
MA-023-01	41.571	0.000	20.648	3.950	19.854	5.378	0.575	7.677	0.015	0.000	99.668
MA-023-16	41.381	0.027	20.685	4.008	19.907	4.772	0.457	7.674	0.012	0.003	98.926
MA-025-01	41.784	0.387	20.942	2.194	20.379	4.278	0.397	8.895	0.055	0.000	99.311
MA-027-01	40.802	0.040	19.524	5.126	17.171	6.082	0.570	10.568	0.007	0.000	99.890
MA-027-02	42.050	0.269	19.967	4.881	21.220	4.828	0.311	6.168	0.043	0.008	99.745
MA-027-03	41.848	0.037	21.003	4.056	20.368	4.812	0.458	7.461	0.015	0.004	100.062
MA-027-04	40.998	0.059	21.770	2.017	17.015	4.580	0.451	12.937	0.006	0.002	99.835
MA-027-79	41.277	0.065	20.183	4.724	19.309	5.425	0.508	7.794	0.027	0.005	99.317
MA-029-01	41.885	0.019	20.528	4.296	19.581	5.466	0.528	7.597	0.009	0.004	99.913
MA-029-02	41.397	0.029	20.311	4.833	19.334	5.600	0.476	8.063	0.019	0.000	100.062
MA-029-03	41.490	0.302	21.247	3.154	20.135	4.647	0.411	8.269	0.048	0.008	99.711
MA-031-01	41.592	0.081	20.583	4.401	19.634	5.538	0.463	7.690	0.021	0.009	100.012
MA-031-23	41.741	0.073	22.135	2.211	20.000	4.666	0.436	7.959	0.000	0.000	99.221
MA-031-24	41.190	0.099	20.123	4.856	19.543	5.657	0.468	7.343	0.037	0.000	99.316
MA-033-24	41.918	0.000	20.930	3.785	20.136	4.919	0.406	7.286	0.001	0.004	99.385
MA-033-25	41.493	0.287	20.908	3.479	19.450	5.133	0.462	8.668	0.052	0.000	99.932
MA-035-01	41.352	0.145	20.456	4.267	20.036	4.694	0.448	7.898	0.064	0.005	99.365
MA-037-06	41.366	0.003	20.998	3.800	19.353	5.163	0.484	7.816	0.012	0.000	98.995
MA-039-01	41.769	0.212	21.268	3.030	20.712	4.802	0.392	7.023	0.040	0.005	99.253
MA-039-28	40.522	0.241	18.990	5.249	16.172	6.403	0.706	11.597	0.033	0.003	99.916
MA-039-29	41.925	0.380	21.395	2.685	21.546	4.590	0.293	6.944	0.048	0.004	99.810

Sample	SiO2	TiO2	Al2O3	Cr2O3	MgO	CaO	MnO	FeO	Na2O	K2O	Total
MA-041-01	41.855	0.300	20.653	3.645	19.582	5.102	0.458	8.200	0.057	0.000	99.852
MA-043-01	41.848	0.080	21.287	3.287	19.959	5.154	0.430	7.996	0.009	0.005	100.055
MA-043-02	41.542	0.794	18.724	5.195	20.126	5.775	0.320	7.246	0.037	0.002	99.761
MA-043-03	40.956	0.173	19.387	4.954	17.126	5.441	0.575	11.238	0.042	0.000	99.892
MA-043-06	41.241	1.067	18.614	4.692	19.854	5.842	0.288	7.776	0.051	0.000	99.425
MA-055-03	41.791	0.202	21.523	2.610	19.882	4.912	0.436	8.615	0.044	0.004	100.019
MA-055-04	41.774	0.251	19.124	5.579	20.495	5.465	0.326	6.759	0.015	0.000	99.788
MA-055-05	41.928	0.872	19.303	4.041	20.876	5.478	0.274	6.921	0.041	0.000	99.734
MA-055-07	41.526	0.180	20.903	3.312	19.822	4.939	0.441	8.110	0.053	0.000	99.286
MA-055-08	41.295	0.034	18.770	6.686	19.856	5.619	0.485	7.206	0.034	0.008	99.993
MA-055-09	40.718	0.886	15.635	9.306	18.947	7.099	0.306	7.063	0.057	0.000	100.017
MA-055-11	41.469	0.147	20.953	3.200	19.696	5.108	0.533	8.816	0.022	0.003	99.947
MA-055-12	41.452	0.530	18.456	5.969	20.379	5.598	0.306	6.642	0.048	0.002	99.382
MA-055-13	40.706	1.224	17.352	6.354	19.099	6.676	0.309	7.689	0.055	0.007	99.471
MA-055-15	41.896	0.159	19.897	5.091	20.303	4.901	0.507	7.312	0.044	0.000	100.110
MA-057-01	42.403	0.351	21.111	2.620	21.681	4.686	0.297	6.364	0.026	0.000	99.539
MA-057-02	41.860	0.288	20.818	3.403	20.433	4.971	0.429	7.867	0.044	0.000	100.113
MA-057-03	41.433	0.034	19.719	5.079	19.329	5.539	0.516	7.980	0.011	0.000	99.640
MA-057-06	41.208	0.304	19.864	4.681	19.604	5.396	0.471	7.889	0.055	0.008	99.480
MA-057-07	41.724	0.026	19.582	5.735	20.191	5.157	0.468	6.964	0.030	0.000	99.877
MA-057-08	42.275	0.188	20.730	3.941	21.408	4.656	0.338	6.618	0.028	0.000	100.182
MA-057-10	41.703	0.306	18.508	6.396	20.914	5.237	0.298	6.050	0.039	0.000	99.451
MA-057-11	41.825	0.091	21.269	3.378	20.014	4.994	0.432	7.885	0.024	0.000	99.912
MA-057-12	41.719	0.053	19.442	5.872	19.531	5.919	0.425	7.104	0.019	0.016	100.100
MA-057-13	41.737	0.651	19.562	4.338	20.729	5.179	0.332	7.262	0.052	0.000	99.842
MA-057-14	41.465	0.039	19.310	6.071	19.851	5.083	0.453	7.410	0.016	0.007	99.705
MA-057-15	41.761	0.042	20.646	4.443	20.235	4.981	0.440	7.312	0.013	0.006	99.879
MA-057-19	41.739	0.849	18.907	5.236	20.706	5.489	0.332	6.706	0.057	0.006	100.027
MA-057-20	41.943	0.051	22.438	2.022	20.070	4.464	0.401	8.605	0.016	0.001	100.011
MA-057-21	42.455	0.297	20.723	3.328	21.241	4.782	0.284	7.036	0.036	0.006	100.188
MA-057-83	41.381	0.246	17.834	7.327	20.554	5.325	0.312	5.702	0.025	0.000	98.706
MA-057-84	41.486	0.003	20.880	4.242	20.144	5.056	0.443	7.344	0.002	0.000	99.600
MA-059-30	41.280	0.203	19.770	4.727	19.507	5.623	0.373	7.904	0.019	0.006	99.412
MA-059-31	41.421	0.100	20.754	3.960	19.537	5.260	0.430	7.794	0.013	0.001	99.270
MA-059-35	41.990	0.103	21.937	2.593	20.035	4.745	0.496	8.276	0.022	0.001	100.198
MA-059-36	41.969	0.019	21.502	3.257	19.865	5.204	0.546	7.857	0.018	0.000	100.237
MA-059-37	40.953	0.188	18.664	5.836	17.138	6.169	0.607	10.606	0.035	0.003	100.199
MA-059-39	41.443	0.052	20.498	4.175	18.636	5.607	0.508	9.068	0.014	0.000	100.001
MA-059-40	41.514	0.016	19.406	5.865	19.434	5.689	0.476	7.564	0.017	0.008	99.989
MA-059-41	41.590	0.096	19.851	4.815	18.887	5.939	0.537	8.245	0.018	0.001	99.979
MA-059-42	41.472	0.098	18.931	5.924	19.408	6.168	0.369	7.616	0.000	0.004	99.990

Sample	SiO2	TiO2	Al2O3	Cr2O3	MgO	CaO	MnO	FeO	Na2O	K2O	Total
MA-059-43	41.539	0.302	19.264	5.803	20.265	5.399	0.353	6.683	0.034	0.000	99.642
MA-059-44	41.982	0.388	20.371	4.035	21.184	5.021	0.298	6.812	0.038	0.000	100.129
MA-059-45	41.407	0.363	18.869	6.005	19.752	5.704	0.402	7.303	0.049	0.000	99.854
MA-059-46	41.604	0.024	20.143	4.603	19.989	5.316	0.490	7.503	0.010	0.008	99.690
MA-059-47	41.093	0.184	18.272	6.684	18.899	6.397	0.392	7.948	0.015	0.000	99.884
MA-059-48	41.752	0.062	20.736	4.166	20.309	5.584	0.453	6.611	0.016	0.004	99.693
MA-059-50	41.678	0.005	19.749	5.426	19.873	5.478	0.500	7.408	0.016	0.000	100.133
MA-059-51	42.260	0.240	21.225	2.882	21.673	4.609	0.314	6.595	0.037	0.006	99.841
MA-061-02	41.781	0.048	19.232	5.813	19.654	5.737	0.457	7.258	0.020	0.005	100.005
MA-061-03	41.776	0.213	20.265	4.040	20.321	5.177	0.379	7.596	0.020	0.001	99.788
MA-063-01	40.997	0.040	19.964	4.158	17.562	5.851	0.571	10.680	0.019	0.005	99.847
MA-063-05	41.837	0.070	18.974	5.666	19.499	5.748	0.461	7.417	0.028	0.000	99.700
MA-063-06	42.011	0.205	20.143	3.809	20.398	5.001	0.376	7.797	0.028	0.003	99.771
MA-063-07	41.843	0.033	20.340	4.676	20.177	6.031	0.439	6.570	0.000	0.001	100.110
MA-065-01	41.777	0.832	19.316	4.010	20.967	5.428	0.259	6.844	0.040	0.000	99.473
MA-065-02	41.937	0.043	19.967	4.534	19.973	5.447	0.489	7.267	0.010	0.000	99.667
MA-069-01	41.799	0.036	19.929	4.763	20.316	5.276	0.481	7.256	0.014	0.000	99.870
MA-071-01	41.314	0.164	19.221	5.322	19.794	5.402	0.469	7.875	0.043	0.000	99.604
MA-093-01	41.788	0.265	21.526	2.402	19.825	4.762	0.403	8.767	0.039	0.005	99.782
MA-093-03	41.929	0.000	20.753	3.958	19.810	5.460	0.532	7.227	0.012	0.000	99.681
MA-093-04	41.882	0.000	21.220	3.607	20.342	4.900	0.459	7.660	0.006	0.000	100.076
MA-093-05	41.508	0.024	19.874	4.991	18.909	5.939	0.517	7.866	0.016	0.002	99.646
MA-093-06	41.193	0.054	18.516	6.667	18.928	6.432	0.445	7.793	0.003	0.000	100.031
MA-093-07	41.421	0.053	20.465	4.865	20.042	5.006	0.476	7.700	0.024	0.000	100.052
MA-093-08	41.846	0.074	20.829	3.914	19.713	5.134	0.491	8.164	0.017	0.003	100.185
MA-093-16	41.799	0.161	19.525	5.678	20.842	5.219	0.301	6.764	0.023	0.000	100.312
MA-093-18	42.072	0.301	20.802	3.704	20.373	4.969	0.365	7.694	0.023	0.000	100.303
MA-095-02	41.744	0.086	21.117	3.680	19.912	5.502	0.448	7.635	0.014	0.003	100.141
MA-095-03	41.439	0.009	18.985	6.239	18.867	6.132	0.481	7.474	0.001	0.000	99.627
MA-097-01	41.163	0.094	18.984	6.180	19.202	6.124	0.479	7.539	0.024	0.001	99.790
MA-097-02	41.527	0.060	20.759	4.242	20.155	5.181	0.473	7.413	0.024	0.000	99.834
MA-097-03	41.386	0.094	20.821	3.820	20.307	5.260	0.406	7.531	0.026	0.008	99.659
MA-097-06	41.323	0.438	20.140	4.041	21.269	4.791	0.317	6.879	0.047	0.002	99.247
MA-099-01	40.790	0.409	18.138	7.249	20.716	5.608	0.316	6.239	0.052	0.000	99.517
MA-099-02	41.053	0.306	21.233	3.007	21.498	4.759	0.287	6.625	0.029	0.014	98.811
MA-099-03	40.833	0.000	21.254	3.607	20.789	4.676	0.461	7.262	0.011	0.001	98.894
MA-099-04	40.931	0.957	17.871	6.296	20.631	5.791	0.288	6.365	0.082	0.001	99.213
MA-099-05	40.871	0.186	19.393	5.425	20.585	5.280	0.355	6.854	0.033	0.000	98.982
MA-099-06	41.164	0.000	20.778	4.027	20.480	4.679	0.493	7.641	0.021	0.000	99.283
MA-099-07	40.199	0.036	20.054	4.736	17.480	5.797	0.506	10.606	0.007	0.000	99.421
MA-099-08	41.723	0.058	20.301	4.807	19.972	5.244	0.478	7.623	0.027	0.002	100.235

Sample	SiO2	TiO2	Al2O3	Cr2O3	MgO	CaO	MnO	FeO	Na2O	K2O	Total
MA-099-09	41.883	0.086	21.659	2.669	20.309	4.962	0.433	7.960	0.032	0.000	99.993
MA-099-10	41.749	0.079	20.474	4.727	19.824	5.220	0.513	7.788	0.037	0.000	100.411
MA-099-11	41.622	0.064	20.293	4.598	19.668	5.451	0.513	7.798	0.024	0.000	100.031
MA-101-01	41.939	0.010	21.262	3.376	20.157	4.656	0.491	7.887	0.022	0.005	99.805
MA-101-03	41.412	0.093	20.615	4.411	19.283	5.496	0.495	7.967	0.028	0.008	99.808
MA-105-02	41.738	0.076	19.516	5.399	18.937	5.892	0.514	8.068	0.018	0.008	100.166
MA-113-01	41.061	0.014	19.329	5.954	19.636	5.755	0.458	7.217	0.018	0.000	99.442
MA-113-02	40.930	0.013	19.486	5.915	19.605	5.739	0.440	7.126	0.019	0.000	99.273
MA-113-03	41.980	0.039	21.739	2.551	19.708	4.596	0.500	8.442	0.009	0.002	99.566
MA-113-04	42.012	0.046	20.959	3.938	20.358	5.192	0.412	7.255	0.009	0.008	100.189
MA-113-05	41.639	0.111	19.794	5.064	19.143	5.994	0.459	7.709	0.011	0.011	99.935
MA-117-01	41.609	0.053	19.888	5.328	20.486	4.848	0.455	6.852	0.021	0.000	99.540
MA-117-02	41.563	0.318	19.713	4.809	20.821	5.079	0.349	6.861	0.049	0.000	99.562
MA-117-03	41.788	0.014	19.979	5.481	19.426	5.972	0.500	7.489	0.000	0.002	100.651
MA-119-01	41.591	0.593	18.799	5.758	20.585	5.399	0.351	6.854	0.048	0.000	99.978
MA-119-02	42.150	0.222	21.152	3.220	20.269	4.882	0.417	7.808	0.018	0.002	100.140
MA-119-03	41.653	0.332	18.241	7.067	20.706	5.685	0.322	6.094	0.033	0.005	100.138
MA-119-04	41.783	0.290	20.666	4.031	20.616	4.988	0.386	7.246	0.042	0.000	100.048
MA-119-05	41.799	0.201	20.557	3.782	20.443	5.157	0.361	7.427	0.018	0.000	99.745
MA-119-06	41.356	0.060	17.990	7.077	20.355	6.227	0.297	6.286	0.000	0.001	99.649
MA-123-01	41.548	0.305	17.909	6.861	19.978	6.264	0.308	6.768	0.016	0.000	99.957
MA-123-02	41.736	0.047	20.900	3.712	20.296	5.052	0.379	7.488	0.009	0.001	99.620
MA-125-01	40.971	0.132	21.046	3.043	17.655	5.100	0.734	11.086	0.044	0.000	99.811
MA-127-01	41.148	0.570	18.662	5.666	19.598	5.974	0.379	7.470	0.037	0.000	99.504
MA-127-02	41.913	0.127	20.805	3.670	20.505	5.151	0.385	7.634	0.019	0.005	100.214
MA-127-03	41.266	0.199	18.890	6.151	19.697	5.583	0.391	7.316	0.024	0.002	99.519
MA-127-04	42.017	0.013	21.647	3.266	20.162	4.950	0.520	7.705	0.022	0.000	100.302
MA-127-05	42.240	0.070	21.316	3.438	20.461	4.939	0.408	7.280	0.020	0.007	100.179
MA-127-06	41.785	0.158	20.090	4.593	19.738	5.236	0.404	7.757	0.025	0.000	99.786
MA-127-07	41.052	0.092	18.515	6.923	18.695	6.302	0.541	7.593	0.016	0.003	99.732
MA-127-08	42.058	0.013	21.234	3.736	20.880	4.333	0.505	7.240	0.006	0.000	100.005
MA-129-01	41.910	0.226	20.264	4.555	20.502	4.995	0.403	7.188	0.038	0.002	100.083
MA-129-02	41.426	0.120	18.056	6.759	19.590	6.398	0.301	6.777	0.000	0.000	99.427
MA-129-03	41.740	0.044	19.654	5.609	19.936	5.421	0.455	7.034	0.007	0.000	99.900
MA-129-04	41.365	0.106	19.637	5.696	20.264	5.164	0.446	6.878	0.026	0.005	99.587
MA-129-05	41.337	0.343	18.270	6.422	19.050	5.902	0.446	8.328	0.042	0.000	100.140
MA-131-01	41.354	0.238	21.256	2.526	20.122	4.620	0.404	8.758	0.047	0.000	99.325
MA-135-01	41.489	0.108	19.913	4.832	19.252	5.825	0.465	8.224	0.000	0.000	100.108
MA-135-02	41.722	0.318	20.264	4.476	20.289	4.863	0.386	7.757	0.058	0.005	100.138
MA-135-03	42.359	0.081	21.910	2.618	20.850	4.991	0.366	6.900	0.018	0.001	100.094
MA-135-04	41.731	0.014	20.936	3.645	19.299	5.721	0.523	8.022	0.011	0.006	99.908

Sample	SiO2	TiO2	Al2O3	Cr2O3	MgO	CaO	MnO	FeO	Na2O	K2O	Total
MA-135-05	42.049	0.355	20.964	2.813	20.378	4.772	0.332	8.168	0.054	0.002	99.887
MA-135-06	42.014	0.022	20.675	4.489	20.531	4.614	0.526	7.396	0.014	0.000	100.281
MA-135-07	42.097	0.291	19.581	5.225	21.154	4.941	0.291	6.540	0.038	0.000	100.158
MA-135-08	41.560	0.126	20.029	4.535	19.813	5.369	0.415	8.011	0.025	0.010	99.893
MA-135-09	42.200	0.020	21.147	3.497	19.888	4.878	0.518	8.272	0.023	0.000	100.443
MA-135-11	42.067	0.000	21.328	3.166	19.859	5.107	0.505	7.975	0.021	0.002	100.030
MA-137-01	40.956	0.030	20.132	4.352	17.790	5.719	0.538	10.018	0.017	0.000	99.552
MA-137-02	41.550	0.077	20.200	4.850	20.032	5.215	0.484	7.495	0.040	0.001	99.944
MA-137-03	41.676	0.000	20.978	4.136	20.407	5.231	0.410	7.131	0.006	0.000	99.975
MA-137-04	41.778	0.006	21.056	3.722	20.480	4.851	0.527	7.543	0.021	0.000	99.984
MA-137-06	41.284	0.053	20.160	4.793	19.754	5.301	0.513	7.833	0.010	0.006	99.707
MA-137-07	41.996	0.316	21.636	2.745	20.479	4.902	0.368	7.880	0.032	0.000	100.354
MA-137-08	41.721	0.001	20.778	4.178	20.428	4.872	0.490	7.400	0.005	0.014	99.887
MA-137-09	41.465	0.011	20.050	4.982	19.835	5.470	0.495	7.454	0.026	0.001	99.789
MA-137-10	41.110	0.230	18.776	6.003	19.435	5.956	0.407	7.721	0.035	0.000	99.673
MA-137-11	40.834	0.059	20.122	4.179	17.222	6.355	0.463	10.648	0.027	0.000	99.909
MA-137-12	41.555	0.079	20.050	5.072	19.144	6.181	0.429	7.451	0.018	0.000	99.979
MA-137-13	41.928	0.114	20.892	3.908	20.103	5.421	0.417	7.412	0.018	0.001	100.214
MA-137-14	41.981	0.179	21.143	3.419	20.156	4.961	0.477	7.867	0.053	0.005	100.241
MA-137-15	42.482	0.008	21.727	3.111	20.962	4.436	0.471	7.303	0.006	0.000	100.506
MA-137-16	42.306	0.053	21.072	3.762	20.253	4.721	0.492	7.869	0.025	0.000	100.553
MA-137-17	41.431	0.368	20.855	3.642	20.391	4.432	0.413	8.379	0.072	0.006	99.989
MA-137-26	42.050	0.021	20.330	4.674	20.479	5.197	0.397	7.290	0.001	0.000	100.439
MA-137-27	41.880	0.002	21.464	3.256	19.641	5.506	0.468	8.255	0.000	0.005	100.477
MA-139-01	41.638	0.023	21.155	3.821	20.096	5.474	0.520	7.566	0.017	0.000	100.310
MA-139-02	41.349	0.009	19.874	5.554	19.919	5.188	0.494	7.389	0.003	0.008	99.787
MA-139-03	41.575	0.070	20.105	4.786	20.071	5.543	0.485	7.399	0.029	0.001	100.064
MA-139-04	41.600	0.631	19.434	4.754	21.061	5.208	0.307	6.368	0.054	0.000	99.417
MA-141-01	40.743	0.107	19.764	5.043	18.999	5.957	0.514	7.860	0.027	0.000	99.014
MA-143-01	41.018	0.076	21.530	2.658	18.023	4.629	0.401	11.780	0.034	0.000	100.149
MA-143-02	41.398	0.002	20.955	3.943	20.374	5.127	0.499	7.273	0.017	0.000	99.588
MA-143-03	40.667	1.108	17.107	7.389	20.561	5.555	0.317	6.545	0.102	0.000	99.351
MA-143-04	41.331	0.104	20.029	5.017	20.542	5.071	0.496	7.291	0.016	0.000	99.897
MA-143-06	40.986	0.090	21.162	2.624	16.368	5.478	0.564	13.347	0.028	0.000	100.647
MA-147-01	40.849	0.027	20.251	4.705	18.597	5.075	0.598	9.866	0.020	0.001	99.989
MA-147-02	41.391	0.240	19.623	5.129	19.752	5.375	0.405	8.219	0.028	0.012	100.174
MA-147-03	41.916	0.072	21.078	3.528	20.397	4.890	0.501	7.666	0.024	0.007	100.079
MA-147-04	41.466	0.218	20.001	4.914	19.751	5.454	0.452	7.774	0.064	0.002	100.096
MA-147-05	41.976	0.183	21.332	3.023	20.531	4.546	0.396	8.052	0.045	0.000	100.084
MA-153-01	41.620	0.006	20.839	4.085	19.313	5.836	0.537	8.039	0.011	0.000	100.286
MA-153-02	41.741	0.076	20.450	4.678	19.458	5.648	0.510	7.789	0.047	0.009	100.406

Sample	SiO2	TiO2	Al2O3	Cr2O3	MgO	CaO	MnO	FeO	Na2O	K2O	Total
MA-155-01	41.497	0.863	18.318	5.255	20.060	5.463	0.317	7.973	0.068	0.000	99.814
MA-155-02	41.986	0.018	22.179	2.254	20.109	5.329	0.430	7.784	0.014	0.004	100.107
MA-155-03	41.077	0.254	17.359	7.844	20.242	5.612	0.343	6.407	0.036	0.000	99.174
MA-157-01	41.411	0.076	19.699	5.416	19.323	5.763	0.482	7.721	0.027	0.000	99.918
MA-161-01	41.752	0.000	21.512	2.790	19.066	5.466	0.599	8.448	0.014	0.003	99.650
MA-167-01	42.031	0.201	20.843	3.267	20.147	4.790	0.416	8.203	0.032	0.011	99.941
MA-171-01	41.527	0.146	19.336	5.537	20.122	4.986	0.479	7.469	0.026	0.000	99.628
MA-171-02	41.607	0.010	19.493	5.831	20.383	5.059	0.456	6.873	0.020	0.000	99.732
MA-179-01	41.828	0.019	19.385	5.793	19.770	6.368	0.414	6.568	0.006	0.001	100.152
MA-179-02	41.694	0.074	21.344	3.152	20.042	5.003	0.436	8.097	0.013	0.003	99.858
MA-179-04	41.800	0.186	20.063	4.807	19.800	5.342	0.484	8.095	0.031	0.005	100.613
MA-181-01	41.968	0.012	21.049	3.816	19.865	5.216	0.428	7.747	0.009	0.000	100.110
MA-181-02	41.934	0.043	21.515	3.253	20.226	4.925	0.429	8.117	0.018	0.000	100.460
MA-181-03	41.760	0.000	20.249	4.841	19.033	5.930	0.512	8.078	0.016	0.001	100.420
MA-181-04	41.806	0.457	19.555	4.452	19.894	5.567	0.331	7.816	0.024	0.000	99.902
MA-181-05	41.856	0.021	19.945	5.431	19.988	5.517	0.461	7.309	0.024	0.003	100.555
MA-181-06	40.999	0.206	21.385	2.109	17.105	4.960	0.708	12.244	0.034	0.008	99.758
MA-183-01	42.147	0.113	20.052	4.564	20.621	5.601	0.272	6.854	0.004	0.004	100.232
MA-183-02	42.220	0.027	21.409	3.249	20.545	4.845	0.507	7.290	0.024	0.009	100.125
MA-183-03	41.743	0.330	19.965	4.275	20.422	5.198	0.412	7.983	0.027	0.000	100.355
MA-183-04	41.845	0.167	21.551	2.728	20.161	4.778	0.445	7.957	0.026	0.000	99.658
MA-183-05	41.501	0.032	19.599	5.544	19.615	6.016	0.448	7.049	0.008	0.000	99.812
MA-185-01	41.803	0.079	20.292	4.443	20.263	5.053	0.458	7.429	0.016	0.000	99.836
MA-187-01	41.741	0.034	20.102	4.823	20.022	5.359	0.469	7.131	0.012	0.000	99.693
MA-187-02	41.467	0.321	21.019	3.356	21.029	4.737	0.336	6.975	0.029	0.004	99.273
MA-187-03	41.680	0.263	19.768	5.170	20.265	5.297	0.355	7.426	0.038	0.000	100.262
MA-187-04	42.193	0.204	21.518	3.049	20.999	4.647	0.396	7.274	0.039	0.000	100.319
MA-187-05	41.198	0.278	20.201	4.177	20.196	5.343	0.395	7.725	0.022	0.008	99.543
MA-187-06	41.411	0.017	20.845	4.281	20.436	5.069	0.407	7.235	0.010	0.000	99.711
MA-187-07	41.281	0.405	17.446	7.551	20.489	6.078	0.296	6.249	0.029	0.006	99.830
MA-187-08	41.238	0.247	20.104	4.338	20.325	5.351	0.354	7.290	0.023	0.000	99.270
MA-187-09	41.056	0.180	19.723	5.204	20.386	5.294	0.411	7.308	0.024	0.005	99.591
MA-187-11	41.677	0.233	20.588	4.138	20.222	5.111	0.406	7.786	0.054	0.000	100.215
MA-187-12	41.210	0.030	20.895	3.949	19.185	5.500	0.561	8.260	0.008	0.010	99.608
MA-187-13	42.249	0.177	21.420	3.048	21.012	4.647	0.401	7.184	0.013	0.000	100.151
MA-187-14	41.862	0.026	21.693	2.655	20.417	5.285	0.402	7.671	0.019	0.002	100.032
MA-189-01	41.256	0.109	20.062	4.659	19.177	5.821	0.504	8.349	0.027	0.005	99.969
MA-189-02	41.228	0.087	20.696	3.843	18.957	5.222	0.586	9.477	0.024	0.004	100.124
MA-189-03	41.608	0.118	19.807	4.981	20.478	5.171	0.411	7.186	0.027	0.001	99.788
MA-189-04	41.342	0.317	19.689	5.114	20.467	5.371	0.376	7.311	0.031	0.002	100.020
MA-189-05	41.651	0.026	22.126	2.371	19.762	4.787	0.479	8.812	0.011	0.000	100.025

Sample	SiO2	TiO2	Al2O3	Cr2O3	MgO	CaO	MnO	FeO	Na2O	K2O	Total
MA-189-06	41.329	0.220	19.331	5.625	20.152	5.500	0.403	7.331	0.031	0.000	99.922
MA-189-07	41.216	0.034	18.902	6.176	19.768	5.946	0.364	7.242	0.009	0.000	99.657
MA-189-08	41.343	0.453	19.183	5.382	19.829	5.333	0.399	7.780	0.047	0.006	99.755
MA-189-09	41.202	0.011	19.818	5.379	19.359	5.801	0.500	7.541	0.014	0.000	99.625
MA-189-11	41.603	0.000	20.748	3.831	20.150	5.446	0.463	7.378	0.003	0.000	99.622
MA-189-13	41.647	0.592	18.283	6.355	19.996	5.838	0.383	6.721	0.057	0.008	99.880
MA-189-15	41.034	0.009	20.098	4.982	19.429	5.850	0.486	7.494	0.009	0.000	99.391
MA-189-16	41.230	0.053	19.368	5.891	19.678	5.631	0.455	7.288	0.015	0.011	99.620
MA-189-17	41.613	0.105	20.046	4.974	20.776	4.863	0.466	6.632	0.018	0.000	99.493
MA-189-18	41.681	0.284	20.084	4.673	20.269	5.384	0.372	7.434	0.041	0.000	100.222
MA-189-19	41.016	0.350	19.132	5.353	19.537	5.946	0.380	7.564	0.033	0.000	99.311
MA-189-20	41.036	0.016	19.841	5.151	20.047	5.466	0.455	7.022	0.024	0.014	99.072
MA-189-21	40.744	0.099	20.226	3.546	15.558	6.325	0.675	13.180	0.000	0.000	100.353
MA-189-22	41.833	0.006	21.164	3.645	19.813	5.736	0.495	7.670	0.010	0.000	100.372
MA-197-01	41.403	0.007	21.792	2.591	19.355	5.366	0.582	8.786	0.002	0.000	99.884
MA-199-01	41.490	0.014	20.758	4.272	19.438	5.367	0.511	8.364	0.002	0.000	100.216
MA-199-25	41.794	0.079	20.586	4.504	20.361	4.699	0.462	7.508	0.032	0.000	100.025
MA-199-28	41.458	0.347	20.158	3.816	20.833	5.333	0.330	7.294	0.016	0.000	99.585
MA-199-29	41.578	0.193	21.859	2.093	20.112	4.480	0.436	9.065	0.033	0.001	99.850
MA-199-31	41.387	0.047	20.202	4.317	19.447	5.578	0.462	8.178	0.014	0.002	99.634
MA-199-32	41.745	0.009	21.472	2.819	18.876	5.362	0.580	9.006	0.017	0.001	99.887
MA-199-33	41.341	0.056	20.846	3.503	19.518	5.252	0.445	8.542	0.008	0.004	99.515
MA-199-34	41.208	0.264	19.295	5.114	19.574	5.447	0.442	7.872	0.052	0.000	99.268
MA-199-36	41.368	0.172	19.606	5.363	19.352	5.536	0.483	8.061	0.020	0.000	99.961
MA-205-01	41.532	0.000	21.329	3.249	19.343	5.511	0.614	8.609	0.005	0.002	100.194
MA-205-02	41.659	0.561	18.798	5.640	20.198	5.125	0.322	7.726	0.035	0.004	100.068
MA-207-02	42.013	0.007	21.333	3.422	20.964	4.482	0.527	7.136	0.008	0.004	99.896
MA-207-03	41.168	0.065	17.348	8.034	20.123	6.586	0.303	5.973	0.013	0.007	99.620
MA-209-02	40.865	0.009	21.009	3.083	17.103	5.903	0.661	11.167	0.000	0.000	99.800
MA-209-03	40.616	0.049	18.292	7.328	19.246	6.476	0.466	7.168	0.026	0.006	99.673
MA-209-04	41.507	0.053	19.811	5.092	19.927	5.248	0.445	7.773	0.008	0.000	99.864
MA-209-06	41.559	0.133	20.465	3.828	20.290	4.927	0.418	7.899	0.029	0.005	99.553
MA-209-07	41.549	0.175	20.020	5.042	20.892	4.902	0.409	6.861	0.043	0.000	99.893
MA-209-08	42.092	0.309	21.241	3.085	21.396	4.469	0.355	7.195	0.057	0.003	100.202
MA-209-10	41.815	0.000	21.626	2.811	19.382	5.360	0.646	8.590	0.000	0.000	100.230
MA-209-11	41.613	0.041	19.648	5.548	19.711	5.736	0.490	7.450	0.028	0.000	100.265
MA-211-01	41.567	0.325	21.076	2.966	21.377	4.777	0.282	6.995	0.034	0.000	99.399
MA-213-01	41.598	0.117	21.433	3.059	20.094	4.743	0.422	8.242	0.023	0.000	99.731
MA-213-03	41.999	0.067	22.313	2.173	20.827	4.483	0.390	7.769	0.019	0.001	100.041
MA-213-04	42.004	0.159	20.709	4.084	20.175	5.308	0.399	7.221	0.040	0.000	100.099
MA-215-01	42.069	0.122	21.433	2.887	20.468	4.629	0.395	7.944	0.018	0.000	99.965

Sample	SiO2	TiO2	Al2O3	Cr2O3	MgO	CaO	MnO	FeO	Na2O	K2O	Total
MA-215-02	41.819	0.073	20.841	3.857	20.027	5.091	0.484	7.997	0.029	0.003	100.221
MA-221-01	41.671	0.001	21.136	3.648	20.485	5.114	0.491	7.425	0.000	0.007	99.978
MA-225-01	41.553	0.092	21.999	2.397	20.267	4.772	0.424	8.142	0.023	0.000	99.669
MA-225-02	41.548	0.079	21.043	3.765	19.670	5.168	0.471	7.910	0.030	0.004	99.688
MA-225-03	41.928	0.017	20.556	4.566	20.657	4.984	0.429	7.027	0.005	0.000	100.169
MA-225-04	41.523	0.092	20.449	4.259	19.544	5.394	0.509	7.755	0.014	0.000	99.539
MA-225-05	41.438	0.629	19.557	4.308	20.451	5.434	0.330	7.590	0.036	0.004	99.777
MA-225-06	41.481	0.043	20.340	4.591	20.186	4.989	0.458	7.557	0.029	0.000	99.674
MA-225-07	41.477	0.003	21.581	2.778	19.282	5.481	0.612	8.583	0.004	0.000	99.801
MA-229-01	41.269	0.079	19.997	4.939	19.590	5.584	0.536	7.708	0.033	0.000	99.735
MA-229-02	40.560	0.032	20.581	3.479	17.655	5.886	0.714	10.444	0.016	0.003	99.370
MA-229-03	40.837	0.285	19.484	5.191	19.906	5.401	0.438	7.836	0.031	0.010	99.419
MA-229-04	40.511	0.064	20.550	4.071	19.861	5.248	0.508	7.721	0.024	0.000	98.558
MA-229-05	40.489	0.067	19.102	5.334	15.760	7.121	0.674	11.422	0.006	0.001	99.976
MA-229-06	41.781	0.000	20.777	3.982	20.379	5.048	0.449	7.230	0.013	0.002	99.661
MA-229-07	41.874	0.258	21.233	3.191	20.007	4.819	0.464	8.326	0.033	0.000	100.205
MA-229-08	41.714	0.009	20.098	4.789	19.828	5.680	0.410	7.401	0.006	0.000	99.935
MA-229-11	41.731	0.076	20.571	4.164	19.704	5.062	0.492	8.212	0.024	0.000	100.036
MA-231-01	41.584	0.113	20.217	4.413	19.517	5.308	0.437	8.192	0.020	0.006	99.807
MA-233-01	42.033	0.100	21.504	3.231	20.017	5.133	0.420	7.719	0.027	0.000	100.184
MA-233-02	41.775	0.176	21.542	2.831	20.085	4.930	0.418	8.333	0.005	0.000	100.095
MA-233-03	41.458	0.040	21.207	3.252	19.439	5.117	0.508	8.815	0.013	0.015	99.864
MA-233-04	41.781	0.103	21.138	3.620	19.597	5.330	0.427	8.176	0.024	0.003	100.199
MA-233-05	41.825	0.048	21.441	3.246	19.446	5.103	0.462	8.707	0.016	0.000	100.294
MA-233-06	41.732	0.035	21.504	3.268	19.286	5.100	0.475	8.676	0.005	0.003	100.084
MA-233-26	41.355	0.025	21.661	3.239	19.579	5.099	0.460	8.854	0.011	0.000	100.283
MA-233-27	41.341	0.027	21.352	3.238	19.423	5.143	0.480	8.759	0.010	0.003	99.776
MA-235-01	41.964	0.592	19.747	4.588	20.735	5.268	0.297	6.808	0.032	0.006	100.037
MA-237-01	41.738	0.025	21.154	3.871	20.371	4.929	0.491	7.318	0.014	0.005	99.916
MA-239-01	41.565	0.000	20.741	4.081	18.993	5.834	0.538	7.958	0.016	0.000	99.726
MA-239-03	41.835	0.019	20.548	4.620	20.236	5.014	0.468	7.189	0.000	0.000	99.929
MA-245-03	41.560	0.000	20.009	5.369	19.261	5.932	0.463	7.472	0.000	0.007	100.073
MA-245-04	41.525	0.515	17.991	7.036	20.051	5.943	0.303	6.492	0.039	0.014	99.909
MA-245-05	41.791	0.025	21.914	2.703	19.282	4.951	0.531	9.122	0.011	0.000	100.330
MA-245-06	41.005	0.045	19.867	4.940	16.974	6.424	0.486	10.532	0.023	0.000	100.296
MA-255-01	41.893	0.014	20.253	4.754	20.031	5.603	0.388	7.261	0.009	0.003	100.209
MA-255-02	41.668	0.062	18.826	6.684	20.067	5.554	0.469	7.169	0.018	0.000	100.517
MA-257-01	41.756	0.032	20.868	3.946	20.496	4.971	0.454	7.794	0.016	0.000	100.333
MA-261-02	41.348	0.355	17.838	7.485	19.456	6.388	0.410	6.570	0.029	0.001	99.880
MA-261-03	41.948	0.066	19.877	5.049	19.912	5.314	0.469	7.412	0.021	0.000	100.068
MA-263-01	41.421	0.082	19.672	5.515	19.685	5.512	0.502	7.474	0.025	0.000	99.888

Sample	SiO2	TiO2	Al2O3	Cr2O3	MgO	CaO	MnO	FeO	Na2O	K2O	Total
MA-265-01	41.222	0.299	19.579	4.976	20.191	5.265	0.369	7.241	0.030	0.000	99.172
MA-265-02	41.531	0.331	19.606	5.272	20.142	5.075	0.435	7.788	0.045	0.002	100.227
MA-265-14	41.158	0.392	19.096	5.716	20.070	5.543	0.420	7.559	0.028	0.000	99.982
MA-267-01	40.350	0.090	18.514	6.007	15.244	7.539	0.640	11.507	0.000	0.001	99.892
MA-267-02	41.544	0.249	19.356	5.608	19.425	5.689	0.490	7.812	0.052	0.002	100.227
MA-267-03	41.575	0.332	21.069	2.709	19.641	4.432	0.495	9.865	0.038	0.009	100.165
MA-267-16	41.754	0.525	19.830	4.551	21.096	5.182	0.323	6.649	0.048	0.002	99.960
MA-269-01	40.805	0.364	18.066	7.293	19.292	5.916	0.434	7.623	0.054	0.000	99.847
MA-269-02	41.254	0.826	16.977	7.604	20.155	6.268	0.283	6.388	0.050	0.000	99.805
MA-269-03	41.502	0.042	20.090	4.821	19.554	5.557	0.456	8.039	0.010	0.000	100.071
MA-269-04	41.554	0.027	20.194	4.998	20.396	4.894	0.447	7.153	0.035	0.000	99.698
MA-269-05	41.850	0.000	20.577	4.578	20.281	5.523	0.424	7.244	0.011	0.002	100.490
MA-269-06	41.208	0.283	18.686	6.236	19.986	5.859	0.398	7.018	0.031	0.000	99.705
MA-269-07	41.840	0.164	20.425	4.360	20.755	5.127	0.309	6.779	0.017	0.003	99.779
MA-279-01	42.092	0.040	22.291	2.427	20.611	4.702	0.384	8.010	0.007	0.000	100.564
MA-285-01	42.051	0.185	20.849	3.342	21.353	4.893	0.287	6.979	0.046	0.001	99.986
MA-291-01	41.503	0.184	20.949	3.175	19.590	4.895	0.459	8.985	0.027	0.001	99.768
MA-295-01	41.674	0.014	20.334	4.874	19.728	5.974	0.547	7.448	0.013	0.000	100.606
MA-295-02	41.735	0.088	20.446	4.426	20.283	5.002	0.488	7.709	0.025	0.003	100.205
MA-297-01	41.962	0.003	21.331	3.665	20.427	5.020	0.421	7.601	0.000	0.007	100.437
MA-297-11	41.001	0.403	18.957	6.002	19.453	5.326	0.436	8.204	0.059	0.001	99.842
MA-299-01	41.860	0.021	21.794	2.704	19.683	5.365	0.592	8.084	0.003	0.000	100.106
MA-301-01	41.421	0.267	19.426	5.272	19.534	5.583	0.451	7.868	0.039	0.001	99.862
MA-303-01	41.383	0.007	20.570	4.640	20.670	4.541	0.433	7.347	0.010	0.000	99.601
MA-303-07	41.505	0.177	18.485	6.533	20.420	6.179	0.289	6.356	0.016	0.002	99.962
MA-305-01	41.640	0.053	20.734	4.501	20.194	5.232	0.443	7.567	0.010	0.000	100.374
MA-305-02	41.674	0.160	21.003	3.644	21.087	4.806	0.349	7.090	0.017	0.000	99.830
MA-305-03	41.639	0.246	19.509	5.027	20.307	5.321	0.410	7.556	0.034	0.000	100.049
MA-315-01	41.595	0.201	19.088	6.450	20.421	5.267	0.442	6.834	0.054	0.000	100.352
MA-315-02	41.774	0.358	20.454	3.998	21.164	5.162	0.285	6.684	0.029	0.000	99.908
MA-315-03	41.760	0.010	20.966	4.309	20.132	5.357	0.401	7.280	0.000	0.000	100.215
MA-315-04	41.668	0.001	21.398	3.424	20.442	4.897	0.496	7.799	0.011	0.000	100.136
MA-317-01	41.459	0.238	20.251	3.918	20.344	5.158	0.361	7.715	0.022	0.000	99.466
MA-317-02	41.959	0.114	21.897	2.264	20.544	4.671	0.405	7.710	0.018	0.000	99.582
MA-317-04	41.745	0.254	21.865	2.122	20.013	4.663	0.410	8.914	0.035	0.000	100.021
MA-319-01	41.598	0.037	21.300	3.380	19.804	5.061	0.490	8.288	0.019	0.000	99.977
MA-329-02	41.625	0.185	19.235	5.915	20.554	5.543	0.382	6.745	0.048	0.000	100.232
MA-331-01	41.554	0.025	20.316	4.921	18.953	6.357	0.498	7.537	0.009	0.000	100.170
MA-331-02	41.701	0.120	18.810	6.348	20.999	5.228	0.323	6.406	0.020	0.000	99.955
MA-333-01	41.614	0.043	20.312	4.778	20.552	5.038	0.472	7.351	0.023	0.000	100.183
MA-333-02	41.673	0.148	19.007	5.941	20.285	5.883	0.287	6.551	0.011	0.000	99.786

Sample	SiO2	TiO2	Al2O3	Cr2O3	MgO	CaO	MnO	FeO	Na2O	K2O	Total
MA-333-03	40.980	0.045	19.016	6.472	19.178	6.359	0.527	7.481	0.014	0.000	100.072
MA-333-04	42.131	0.011	21.092	3.826	20.385	5.192	0.358	7.257	0.000	0.000	100.252
MA-337-01	41.358	0.125	20.781	4.280	19.447	5.212	0.475	8.654	0.032	0.009	100.373
MA-347-01	40.998	0.468	15.474	10.269	20.051	6.378	0.333	6.059	0.031	0.000	100.061
MA-347-02	41.714	0.447	19.552	5.358	21.132	5.251	0.309	6.004	0.052	0.002	99.821
MA-349-01	41.551	0.168	19.526	5.018	20.483	5.317	0.400	7.494	0.040	0.000	99.997
MA-353-01	41.094	0.101	16.386	9.268	19.157	7.238	0.275	6.335	0.000	0.000	99.854
MA-355-01	41.755	0.064	21.417	3.608	20.974	4.776	0.500	7.107	0.013	0.000	100.214
MA-357-01	41.457	0.258	19.182	5.816	20.734	5.533	0.313	6.436	0.036	0.000	99.765
MA-357-02	41.490	0.077	20.144	4.914	20.125	5.611	0.404	7.544	0.008	0.000	100.317
MA-357-03	41.975	0.216	20.645	4.053	21.128	4.755	0.408	7.127	0.008	0.003	100.318
MA-359-01	41.669	0.019	21.180	3.471	19.346	5.422	0.466	8.243	0.006	0.005	99.827
MA-359-02	41.244	0.026	19.424	5.904	19.023	6.351	0.458	7.577	0.009	0.008	100.024
MA-359-03	41.664	0.148	20.337	4.193	20.213	5.215	0.366	7.731	0.022	0.013	99.902
MA-361-01	41.863	0.234	21.788	2.061	20.551	4.797	0.374	8.459	0.031	0.008	100.166
MA-367-02	41.821	0.255	21.276	3.234	20.676	4.826	0.330	7.606	0.041	0.002	100.067
MA-367-03	41.938	0.190	18.918	5.931	21.315	5.364	0.305	6.222	0.034	0.002	100.219
MA-367-04	41.367	0.543	19.743	4.416	20.204	5.297	0.381	7.786	0.063	0.000	99.800
MA-367-16	41.162	0.201	17.400	8.018	19.590	6.201	0.446	6.688	0.029	0.003	99.738
MA-367-17	41.680	0.019	20.822	3.139	19.776	5.296	0.636	8.520	0.003	0.000	99.891
MA-381-01	41.559	0.122	21.072	3.180	18.244	4.850	0.572	10.479	0.015	0.000	100.093
MA-399-01	41.820	0.021	20.537	4.571	20.542	5.070	0.434	7.202	0.010	0.004	100.211
MA-403-09	41.454	0.074	19.062	5.870	19.230	5.938	0.539	7.965	0.015	0.000	100.147
MA-405-01	41.716	0.225	19.667	5.301	19.680	5.267	0.461	7.921	0.043	0.000	100.281
MA-407-03	41.820	0.082	20.922	3.766	19.883	5.257	0.467	8.158	0.015	0.003	100.373
MA-407-04	41.510	0.085	20.599	4.419	19.574	5.337	0.524	8.192	0.017	0.003	100.260
MA-407-05	40.941	0.121	18.998	6.284	18.771	5.863	0.495	8.323	0.027	0.000	99.823
MA-409-01	42.078	0.019	22.183	2.287	20.794	4.886	0.451	7.684	0.021	0.001	100.404
MA-409-02	41.829	0.018	20.869	4.289	20.671	5.131	0.468	7.372	0.013	0.000	100.660
MA-409-03	41.340	0.065	20.312	4.702	19.901	5.414	0.524	7.811	0.022	0.009	100.100
MA-411-01	41.699	0.253	20.214	4.492	20.265	5.318	0.349	7.482	0.033	0.002	100.107
MA-411-04	41.494	0.164	20.923	3.700	20.118	4.933	0.454	8.073	0.035	0.001	99.895
MA-411-05	41.669	0.087	20.417	4.407	19.981	5.200	0.375	7.632	0.020	0.000	99.788
MA-417-01	41.856	0.024	20.598	4.354	20.960	4.658	0.468	7.022	0.013	0.000	99.953
MA-417-02	41.330	0.217	19.958	5.115	19.756	5.399	0.464	8.044	0.036	0.000	100.319
MA-417-03	41.567	0.155	19.348	5.446	20.073	5.800	0.306	7.288	0.017	0.003	100.003
MA-417-04	41.776	0.415	18.738	6.090	21.060	5.515	0.287	6.120	0.039	0.003	100.043
MA-417-05	41.616	0.144	20.684	3.786	19.728	5.072	0.488	8.538	0.039	0.001	100.096
MA-417-06	41.595	0.012	21.728	2.735	19.420	5.337	0.587	8.715	0.007	0.003	100.139
MA-423-01	41.668	0.029	18.730	6.354	20.449	6.077	0.287	6.366	0.022	0.002	99.984
MA-423-02	41.206	0.093	20.711	3.392	18.326	5.358	0.392	10.401	0.011	0.003	99.893

Sample	SiO2	TiO2	Al2O3	Cr2O3	MgO	CaO	MnO	FeO	Na2O	K2O	Total
MA-423-03	41.070	0.033	21.518	2.772	18.248	4.635	0.404	11.264	0.012	0.002	99.958
MA-423-04	41.658	0.085	21.662	2.714	20.017	4.869	0.446	8.908	0.015	0.002	100.376
MA-423-06	41.228	0.288	20.034	4.646	19.220	5.651	0.459	8.781	0.051	0.000	100.358
MA-423-09	41.978	0.060	20.555	4.579	20.411	5.059	0.482	7.496	0.010	0.002	100.632
MA-423-10	41.730	0.010	21.543	3.047	19.355	5.326	0.561	8.480	0.014	0.000	100.066
MA-429-01	41.882	0.371	21.456	2.085	20.854	4.613	0.306	8.150	0.062	0.000	99.779
MA-429-03	41.542	0.031	20.546	4.653	19.700	5.504	0.514	7.669	0.027	0.001	100.187
MA-429-04	41.620	0.183	20.094	4.952	20.377	5.211	0.422	7.313	0.035	0.009	100.216
MA-429-05	41.719	0.122	21.121	3.621	20.152	5.290	0.430	7.689	0.022	0.000	100.166
MA-429-07	40.810	0.050	19.802	5.123	17.117	6.718	0.714	9.695	0.018	0.000	100.047
MA-431-01	41.140	0.175	18.526	6.396	19.656	5.668	0.444	7.649	0.029	0.003	99.686
MA-431-02	41.738	0.847	19.792	4.503	21.466	5.161	0.290	6.358	0.057	0.000	100.212
MA-431-03	41.515	0.033	20.943	3.545	20.202	4.835	0.565	8.086	0.015	0.000	99.739
MA-431-04	41.530	0.055	20.212	4.786	20.075	5.583	0.495	6.942	0.011	0.006	99.695
MA-431-05	41.588	0.029	20.195	5.023	19.563	5.894	0.472	7.487	0.012	0.000	100.263
MA-431-06	41.323	0.159	20.157	4.572	19.333	5.573	0.480	8.153	0.039	0.004	99.793
MA-431-08	41.027	0.077	20.123	4.494	17.043	6.083	0.499	11.474	0.000	0.000	100.820
MA-431-09	40.929	0.305	18.268	6.926	19.110	6.032	0.451	7.959	0.032	0.000	100.012
MA-431-11	41.545	0.014	20.127	5.022	19.407	5.871	0.523	7.521	0.001	0.002	100.033
MA-431-12	41.637	0.000	21.008	4.092	20.769	4.572	0.524	7.518	0.017	0.000	100.137
MA-431-13	41.026	0.613	18.226	6.421	20.187	5.657	0.358	7.271	0.043	0.000	99.802
MA-431-14	41.671	0.104	20.849	3.790	20.270	5.078	0.440	8.076	0.024	0.000	100.302
MA-431-15	41.471	0.046	20.868	3.986	20.247	5.187	0.455	7.783	0.008	0.002	100.053
MA-431-17	40.580	0.119	20.884	2.934	16.084	5.159	0.573	13.864	0.017	0.000	100.214
MA-431-19	40.812	0.104	19.693	4.792	16.294	6.470	0.659	11.791	0.012	0.000	100.627
MA-431-20	41.447	0.036	20.679	4.434	20.876	4.629	0.415	7.037	0.024	0.000	99.577
MA-431-90	41.884	0.012	20.328	4.084	20.780	4.787	0.546	7.326	0.017	0.006	99.770
MA-431-91	41.801	0.000	20.547	3.848	20.424	5.385	0.508	7.313	0.018	0.001	99.845
MA-433-01	40.417	0.066	19.248	5.430	15.804	6.977	0.676	11.418	0.023	0.000	100.059
MA-433-02	40.807	0.046	19.413	5.496	17.761	6.395	0.443	9.466	0.011	0.000	99.838
MA-433-04	41.487	0.345	19.547	5.180	20.749	5.603	0.308	6.917	0.023	0.000	100.159
MA-433-05	41.981	0.345	21.645	2.535	21.356	4.603	0.317	7.038	0.035	0.002	99.857
MA-433-06	41.958	0.080	22.128	2.281	20.814	4.858	0.370	7.544	0.035	0.000	100.068
MA-433-07	41.810	0.111	20.344	4.689	19.792	5.544	0.417	7.736	0.017	0.000	100.460
MA-433-08	42.060	0.000	21.569	3.199	20.978	5.009	0.405	7.143	0.007	0.000	100.370
MA-433-09	41.402	0.000	20.670	4.292	19.235	5.824	0.646	8.220	0.003	0.000	100.292
MA-433-10	41.116	0.071	21.489	2.585	17.808	5.213	0.566	11.737	0.012	0.000	100.597
MA-433-11	41.538	0.291	21.353	2.761	20.298	4.578	0.398	8.606	0.039	0.000	99.862
MA-433-12	41.844	0.055	21.618	2.978	20.723	4.985	0.405	7.506	0.012	0.000	100.126
MA-433-13	41.904	0.021	21.294	3.644	21.133	4.631	0.493	7.248	0.023	0.000	100.391
MA-433-14	41.919	0.136	21.226	3.346	20.184	5.188	0.453	7.727	0.016	0.000	100.195

Sample	SiO2	TiO2	Al2O3	Cr2O3	MgO	CaO	MnO	FeO	Na2O	K2O	Total
MA-433-15	41.885	0.013	21.547	3.309	21.234	4.442	0.517	7.392	0.024	0.005	100.368
MA-433-16	41.750	0.115	21.818	2.650	20.663	4.637	0.412	8.325	0.018	0.009	100.397
MA-433-18	40.880	0.680	16.623	8.483	19.987	6.210	0.292	6.406	0.072	0.005	99.638
MA-433-19	41.456	0.127	21.471	3.048	20.045	5.132	0.446	8.230	0.026	0.000	99.981
MA-433-20	41.211	0.216	19.116	6.004	19.794	5.460	0.469	7.713	0.028	0.001	100.012
MA-433-21	41.684	0.017	21.371	3.542	20.493	5.174	0.495	7.253	0.011	0.000	100.040
MA-433-22	41.600	0.023	21.142	3.677	20.279	5.080	0.490	8.051	0.012	0.000	100.354
MA-433-23	41.046	0.074	18.278	7.299	18.804	6.366	0.501	7.446	0.028	0.003	99.845
MA-433-24	41.833	0.013	21.197	3.977	20.411	4.905	0.406	7.506	0.001	0.001	100.250
MA-433-25	41.464	0.362	19.413	5.511	21.161	5.316	0.315	6.539	0.026	0.000	100.107
MA-433-26	41.875	0.276	21.153	2.983	20.413	4.588	0.379	8.279	0.048	0.000	99.994
MA-433-27	41.743	0.020	20.980	4.005	20.429	4.980	0.469	7.449	0.005	0.000	100.080
MA-433-28	41.748	0.000	20.620	4.767	20.035	5.150	0.535	7.591	0.020	0.004	100.470
MA-433-31	42.020	0.079	21.312	3.402	20.335	4.976	0.485	7.768	0.026	0.000	100.403
MA-439-01	41.369	0.024	20.537	4.612	20.051	5.022	0.538	7.715	0.023	0.009	99.900
MA-441-01	41.319	0.075	20.594	4.286	19.956	5.031	0.478	7.988	0.016	0.004	99.747
MA-441-03	41.899	0.041	21.468	3.425	20.435	4.759	0.531	7.839	0.010	0.001	100.408
MA-441-04	41.213	0.197	18.942	5.867	19.286	6.183	0.368	7.573	0.040	0.000	99.669
MA-441-51	41.733	0.078	19.745	4.922	19.979	5.396	0.457	7.669	0.015	0.000	99.994
MA-453-01	41.451	0.074	17.843	7.860	20.483	6.445	0.291	6.103	0.000	0.000	100.550
MA-453-02	41.516	0.253	19.967	4.655	20.165	5.209	0.369	7.754	0.037	0.010	99.935
MA-453-03	40.852	0.305	16.690	8.876	19.107	6.767	0.348	6.991	0.033	0.000	99.969
MA-453-04	41.728	0.058	20.158	4.905	19.619	5.968	0.481	7.380	0.028	0.006	100.331
MA-453-05	41.871	0.199	20.687	3.903	20.460	5.063	0.404	7.761	0.021	0.000	100.369
MA-457-01	41.267	0.075	18.617	6.359	19.082	6.621	0.394	7.569	0.011	0.000	99.995
MA-457-02	41.795	0.020	20.359	4.854	20.111	5.546	0.448	7.408	0.004	0.001	100.546
MA-457-03	42.209	0.170	21.802	2.469	21.048	4.639	0.368	7.995	0.021	0.001	100.722
MA-457-04	41.593	0.170	19.580	5.324	20.293	5.519	0.395	7.590	0.029	0.003	100.496
MA-457-05	41.723	0.125	20.263	4.719	20.890	4.871	0.397	7.378	0.042	0.000	100.408
MA-477-01	41.456	0.141	20.332	4.923	19.991	5.597	0.457	7.527	0.023	0.000	100.447
MA-477-02	42.055	0.095	21.039	3.749	20.867	5.038	0.363	7.476	0.025	0.000	100.707
MA-477-03	41.441	0.368	20.462	3.764	20.038	5.150	0.421	8.257	0.031	0.000	99.932
MA-477-04	41.768	0.352	20.246	4.235	20.658	5.060	0.379	6.957	0.040	0.004	99.699
MA-477-05	41.776	0.351	20.754	3.774	20.256	5.151	0.440	8.323	0.039	0.000	100.864
MA-477-10	41.602	0.163	17.411	7.431	20.226	6.350	0.301	6.310	0.012	0.005	99.811
MA-479-01	41.080	0.102	17.875	7.666	19.203	6.697	0.421	7.110	0.013	0.002	100.169
MA-479-02	41.337	0.155	17.432	7.920	19.816	6.630	0.320	6.386	0.013	0.000	100.009
MA-483-01	41.610	0.079	20.257	4.929	20.104	5.785	0.467	7.194	0.016	0.000	100.441
MA-483-02	41.144	0.647	18.344	6.451	20.397	5.708	0.331	6.693	0.066	0.000	99.781
MA-483-03	41.595	0.244	20.117	4.465	20.380	5.339	0.390	7.602	0.033	0.010	100.175
MA-483-04	41.301	0.084	19.653	5.024	19.733	5.801	0.397	7.626	0.004	0.000	99.623

Sample	SiO2	TiO2	Al2O3	Cr2O3	MgO	CaO	MnO	FeO	Na2O	K2O	Total
MA-483-05	41.041	0.613	17.748	7.001	20.020	6.172	0.301	7.022	0.030	0.005	99.953
MA-483-06	41.269	0.352	18.490	6.467	19.916	5.831	0.391	6.921	0.049	0.000	99.686
MA-483-07	41.938	0.006	20.729	4.099	20.647	4.860	0.476	7.212	0.006	0.000	99.973
MA-489-01	41.746	0.486	19.065	5.555	21.234	5.473	0.319	6.282	0.046	0.000	100.206
MA-489-25	41.860	0.298	20.954	3.091	20.868	4.675	0.414	8.281	0.040	0.001	100.482
MA-493-03	41.180	0.528	16.669	8.396	20.097	6.204	0.312	6.272	0.033	0.004	99.695
MA-493-05	41.828	0.037	20.753	4.344	20.389	5.010	0.522	7.354	0.020	0.007	100.264
MA-493-06	40.419	1.614	16.855	6.281	18.484	7.414	0.305	7.899	0.059	0.011	99.341
MA-493-07	41.784	0.315	20.793	3.415	20.608	4.934	0.380	8.035	0.035	0.002	100.301
MA-493-08	41.148	0.041	19.504	5.206	19.575	5.505	0.480	7.840	0.000	0.000	99.299
MA-495-03	41.492	0.082	21.504	2.969	20.576	4.859	0.445	7.901	0.008	0.000	99.836
MA-495-04	42.262	0.361	21.267	2.655	21.634	4.688	0.302	6.918	0.037	0.003	100.127
MA-495-05	41.802	0.421	20.019	4.319	21.012	5.120	0.328	7.185	0.041	0.001	100.248
MA-495-07	41.655	0.468	19.173	5.293	20.872	5.420	0.307	6.839	0.024	0.002	100.053
MA-495-08	41.612	0.583	19.448	4.679	20.718	5.021	0.302	7.352	0.031	0.000	99.746
MA-495-10	41.788	0.374	19.713	4.643	21.044	5.206	0.304	6.822	0.023	0.004	99.921
MA-495-11	41.599	0.741	19.404	4.506	20.584	5.578	0.277	7.380	0.037	0.011	100.117
MA-495-13	41.222	0.521	18.657	6.129	21.036	5.663	0.291	6.194	0.039	0.000	99.752
MA-495-14	41.174	0.104	16.818	9.102	20.032	6.616	0.268	5.765	0.010	0.000	99.889
MA-495-15	41.183	0.137	19.128	6.441	19.618	5.718	0.445	7.549	0.040	0.000	100.259
MA-495-16	41.408	0.341	18.677	6.459	20.365	6.004	0.324	6.658	0.019	0.000	100.255
MA-501-01	41.513	0.018	20.607	4.657	20.523	5.131	0.431	7.277	0.008	0.004	100.169
MA-501-03	41.555	0.030	19.462	5.287	19.962	5.364	0.514	7.444	0.025	0.000	99.643
MA-503-01	41.921	0.053	21.843	2.863	20.587	4.709	0.408	7.934	0.010	0.000	100.328
MA-505-01	41.190	0.163	18.515	7.058	19.052	6.674	0.476	6.825	0.027	0.004	99.984
MA-505-02	41.425	0.005	21.328	3.570	20.186	5.552	0.489	7.606	0.000	0.000	100.161
MA-513-01	41.652	0.025	19.966	5.266	20.117	5.325	0.455	7.251	0.023	0.008	100.088
MA-513-02	42.105	0.123	22.451	2.079	20.524	4.687	0.437	8.484	0.021	0.000	100.911
MA-513-03	41.674	0.206	20.740	4.054	20.746	5.054	0.394	7.452	0.029	0.000	100.349
Grp II Eclogitic Garnets (According to Na vs Ti Plot)											
MA-005-12	42.038	0.085	22.591	1.494	19.921	4.870	0.405	8.402	0.010	0.000	99.816
MA-005-26	39.105	0.125	18.964	0.017	0.140	34.493	0.342	5.890	0.006	0.002	99.087
MA-007-19	38.855	0.374	18.750	0.000	0.141	35.527	0.391	5.207	0.000	0.000	99.245
MA-011-07	41.389	0.191	22.049	1.915	18.618	4.984	0.417	10.477	0.011	0.000	100.051
MA-011-47	40.916	0.065	21.918	1.593	16.591	5.173	0.434	12.976	0.006	0.000	99.672
MA-027-05	38.130	0.078	25.075	0.012	0.003	23.681	0.070	9.380	0.002	0.000	96.431
MA-055-14	41.883	0.260	22.114	1.580	19.958	4.419	0.404	9.111	0.037	0.000	99.766
MA-055-14d	41.728	0.267	21.952	1.580	19.879	4.470	0.406	9.065	0.060	0.000	99.407
MA-055-14d	41.819	0.275	22.136	1.565	19.778	4.512	0.407	9.177	0.036	0.001	99.706

Sample	SiO2	TiO2	Al2O3	Cr2O3	MgO	CaO	MnO	FeO	Na2O	K2O	Total
MA-055-14d	41.967	0.265	22.064	1.577	19.840	4.552	0.387	9.076	0.049	0.001	99.778
MA-057-32	38.412	0.063	25.186	0.000	0.163	23.770	0.066	9.336	0.000	0.000	96.996
MA-059-34	42.097	0.356	21.785	1.764	20.531	4.614	0.342	8.240	0.026	0.003	99.758
MA-059-38	42.220	0.199	22.024	1.743	20.464	4.503	0.364	8.236	0.029	0.000	99.782
MA-083-01	38.289	0.373	15.292	0.022	0.146	34.238	0.689	10.158	0.000	0.000	99.207
MA-097-13	37.359	0.465	14.873	0.000	0.050	35.589	0.354	9.864	0.000	0.000	98.554
MA-119-08	39.232	0.145	20.746	0.002	0.142	34.650	0.772	4.347	0.000	0.000	100.036
MA-135-13	38.625	0.163	16.048	0.032	0.028	35.239	0.344	8.982	0.000	0.000	99.461
MA-145-03	39.161	0.136	21.547	0.027	8.506	8.736	0.643	21.454	0.000	0.000	100.210
MA-225-11	38.093	0.638	14.599	0.006	0.087	34.329	0.961	10.512	0.000	0.000	99.225
MA-235-02	38.469	0.199	17.986	0.000	0.207	32.453	0.955	9.530	0.000	0.000	99.799
MA-305-06	38.983	0.110	18.378	0.000	0.041	34.941	0.215	7.193	0.000	0.000	99.861
MA-395-01	41.640	0.074	22.348	1.937	20.028	4.702	0.486	8.577	0.017	0.000	99.809
MA-421-01	42.126	0.187	22.438	1.864	21.026	4.593	0.344	7.904	0.037	0.000	100.519
MA-423-05	42.203	0.233	22.169	1.975	20.526	4.586	0.415	8.199	0.043	0.000	100.349
MA-423-14	42.435	0.147	22.642	1.838	21.489	5.393	0.269	6.158	0.021	0.000	100.392
MA-431-16	41.742	0.277	21.940	1.833	20.141	4.348	0.396	8.893	0.040	0.007	99.617
MA-431-30	40.350	0.170	21.555	0.571	13.266	4.753	0.628	19.151	0.012	0.003	100.459
MA-433-30	41.776	0.310	22.198	1.760	20.771	4.299	0.397	8.588	0.048	0.000	100.147
Additional ECL Garnets (According to Na vs Ca plot)											
MA-017-02	38.064	0.543	15.182	0.000	0.142	33.721	0.525	10.237	0.006	0.000	98.420
MA-093-11	41.326	0.052	22.857	0.103	15.882	4.155	0.487	15.913	0.010	0.000	100.785
MA-093-19	41.058	0.030	22.796	0.231	15.349	4.306	0.531	16.785	0.018	0.000	101.104
MA-097-05	41.381	0.069	23.006	1.292	20.511	4.453	0.428	8.365	0.018	0.000	99.523
MA-097-07	41.402	0.101	22.326	1.789	20.612	4.595	0.426	7.946	0.025	0.006	99.228
MA-097-09	40.663	0.180	22.177	0.370	14.977	4.516	0.545	16.993	0.015	0.000	100.436
MA-101-02	41.477	0.060	22.428	1.628	18.589	4.626	0.419	11.108	0.013	0.000	100.348
MA-143-07	40.898	0.077	22.406	0.179	15.123	4.709	0.466	16.216	0.023	0.000	100.097
MA-189-10	41.985	0.011	22.805	1.347	20.113	4.746	0.471	8.429	0.004	0.015	99.926
MA-225-08	42.240	0.091	22.330	1.937	21.275	4.443	0.348	7.123	0.019	0.000	99.806
Cr-poor Megacryst											
MA-003-03	42.205	0.526	20.817	2.282	21.181	4.671	0.297	7.332	0.045	0.000	99.356
MA-003-04	41.987	0.777	20.311	2.171	21.024	5.074	0.258	7.754	0.034	0.000	99.390
MA-003-05	41.609	0.639	20.195	2.715	20.596	4.250	0.306	8.642	0.097	0.003	99.052
MA-005-03	41.327	0.823	19.956	3.531	20.214	5.462	0.308	7.651	0.038	0.000	99.310
MA-005-04	41.528	0.772	20.678	2.437	20.205	4.616	0.323	9.097	0.091	0.000	99.747
MA-005-10	41.931	0.743	20.820	2.333	20.803	4.994	0.279	7.506	0.042	0.006	99.457

Sample	SiO2	TiO2	Al2O3	Cr2O3	MgO	CaO	MnO	FeO	Na2O	K2O	Total
MA-005-15	41.702	0.723	21.077	2.236	20.952	4.933	0.274	7.470	0.045	0.006	99.418
MA-005-20	41.720	0.543	20.289	3.489	20.312	5.042	0.300	7.638	0.048	0.000	99.381
MA-005-21	42.255	0.731	20.574	2.237	21.080	4.978	0.251	7.573	0.053	0.000	99.732
MA-005-22	41.578	1.467	20.214	1.347	19.696	5.873	0.313	8.683	0.099	0.006	99.276
MA-005-23	42.046	0.653	20.879	1.545	20.051	4.589	0.336	9.452	0.059	0.000	99.610
MA-005-24	41.638	0.916	21.412	0.113	19.097	4.742	0.401	11.029	0.092	0.006	99.446
MA-005-25	41.752	1.002	19.901	2.258	20.152	5.200	0.352	8.469	0.067	0.006	99.159
MA-005-28	41.728	0.624	21.425	0.764	19.371	4.526	0.379	10.548	0.076	0.000	99.441
MA-005-29	41.537	0.642	21.602	0.153	19.277	4.276	0.398	11.102	0.059	0.006	99.052
MA-005-50	41.419	0.675	20.836	2.450	20.152	5.237	0.333	7.898	0.048	0.001	99.049
MA-007-02	41.626	0.833	20.936	2.145	19.858	4.691	0.335	9.244	0.099	0.000	99.767
MA-007-04	42.197	0.698	20.429	2.278	21.081	4.935	0.257	7.383	0.028	0.000	99.286
MA-007-05	42.224	0.709	20.497	2.181	21.165	4.977	0.266	7.548	0.027	0.000	99.594
MA-011-06	41.866	0.771	20.132	3.169	21.132	5.192	0.287	7.214	0.028	0.000	99.791
MA-011-11	42.092	0.644	21.131	2.014	21.277	4.891	0.262	7.480	0.028	0.000	99.819
MA-011-12	41.620	0.855	20.311	2.357	20.100	4.764	0.325	8.990	0.078	0.000	99.400
MA-011-13	42.259	0.558	21.834	1.046	21.194	4.357	0.330	7.901	0.069	0.001	99.549
MA-011-14	41.966	0.813	21.839	0.185	19.484	4.355	0.416	11.025	0.094	0.004	100.181
MA-023-02	42.359	0.406	21.928	0.664	20.307	4.446	0.307	9.271	0.063	0.001	99.752
MA-023-03	40.976	0.493	20.817	1.035	19.499	4.284	0.333	9.434	0.059	0.000	96.930
MA-023-04	41.773	0.463	21.856	0.348	19.062	4.471	0.389	11.415	0.065	0.009	99.851
MA-025-02	42.236	0.770	19.591	3.471	20.949	5.443	0.287	7.306	0.033	0.000	100.086
MA-025-03	41.818	0.822	19.622	3.588	21.068	5.408	0.303	7.285	0.045	0.000	99.959
MA-025-04	42.070	0.649	20.855	2.282	20.754	4.859	0.296	8.068	0.052	0.000	99.885
MA-025-09	41.493	1.114	21.648	0.188	19.457	5.078	0.309	10.097	0.094	0.000	99.478
MA-029-04	42.181	0.764	21.241	1.146	20.252	4.527	0.287	9.232	0.064	0.000	99.694
MA-031-02	41.598	0.911	21.111	0.550	18.714	4.864	0.396	11.305	0.101	0.001	99.551
MA-031-03	42.044	0.783	21.050	1.010	19.634	4.659	0.361	10.486	0.074	0.000	100.101
MA-031-25	41.494	0.699	21.748	0.912	19.498	4.600	0.333	9.800	0.086	0.000	99.170
MA-033-26	41.419	0.822	21.699	0.142	18.188	5.029	0.398	11.558	0.069	0.004	99.328
MA-035-02	42.147	0.614	22.183	0.449	20.464	4.002	0.399	9.320	0.062	0.000	99.640
MA-035-03	41.872	0.875	20.747	0.963	19.328	4.817	0.349	10.653	0.084	0.004	99.692
MA-035-04	41.530	0.880	20.874	0.649	18.760	4.547	0.383	11.482	0.091	0.000	99.196
MA-037-01	42.243	0.733	20.576	1.920	21.290	4.965	0.278	7.597	0.039	0.001	99.642
MA-039-04	42.077	1.001	19.545	2.828	20.111	5.143	0.284	8.820	0.059	0.011	99.879
MA-039-32	40.928	0.852	21.755	0.121	17.915	4.853	0.400	11.948	0.106	0.001	98.879
MA-043-05	42.184	0.737	20.885	2.147	21.209	5.109	0.264	7.484	0.046	0.000	100.065
MA-043-07	42.276	0.881	21.510	0.660	20.666	4.284	0.315	9.055	0.076	0.000	99.723
MA-043-33	41.588	0.406	21.281	2.387	20.838	4.631	0.305	7.508	0.045	0.007	98.996
MA-055-01	42.363	0.733	21.010	2.092	21.166	4.894	0.237	7.426	0.026	0.009	99.956
MA-055-02	41.858	0.718	20.140	3.381	20.431	5.306	0.309	7.612	0.049	0.002	99.806

Sample	SiO2	TiO2	Al2O3	Cr2O3	MgO	CaO	MnO	FeO	Na2O	K2O	Total
MA-055-06	41.737	0.689	20.392	2.972	20.498	5.087	0.326	8.089	0.056	0.006	99.852
MA-055-10	42.126	0.547	20.369	3.487	20.830	5.095	0.305	7.223	0.033	0.007	100.022
MA-057-04	41.317	0.684	19.819	3.525	20.518	5.334	0.307	7.491	0.045	0.001	99.041
MA-057-05	41.927	0.531	20.372	3.489	20.986	4.886	0.293	7.046	0.044	0.000	99.574
MA-057-09	42.199	0.805	19.615	3.862	20.963	5.460	0.274	7.016	0.046	0.000	100.240
MA-057-16	41.861	0.910	20.893	2.162	19.888	4.880	0.317	9.040	0.066	0.004	100.021
MA-057-17	41.676	0.828	20.225	3.330	20.354	5.209	0.296	7.783	0.064	0.000	99.765
MA-057-18	41.843	0.761	19.929	3.606	20.971	5.254	0.287	7.161	0.037	0.005	99.854
MA-057-22	41.975	0.733	21.011	2.105	20.764	4.964	0.278	7.849	0.049	0.006	99.734
MA-057-23	42.233	0.407	20.450	3.595	21.399	4.757	0.289	6.924	0.038	0.000	100.092
MA-057-24	42.116	0.707	21.471	0.625	20.267	4.711	0.355	8.758	0.062	0.000	99.072
MA-057-25	41.873	0.404	22.317	0.438	19.726	4.126	0.470	10.469	0.033	0.000	99.856
MA-057-26	41.821	0.641	21.642	0.177	19.490	4.293	0.422	10.762	0.078	0.001	99.327
MA-057-27	42.228	0.541	21.580	1.662	21.240	4.511	0.300	7.585	0.064	0.000	99.711
MA-057-28	41.601	0.838	20.263	2.438	20.446	5.202	0.306	8.152	0.057	0.000	99.303
MA-057-29	41.766	0.871	20.703	1.514	20.245	4.693	0.333	9.231	0.081	0.004	99.441
MA-057-82	40.996	0.870	20.858	2.008	19.974	4.976	0.331	8.404	0.086	0.000	98.503
MA-057-85	41.646	0.786	22.103	0.206	19.188	4.542	0.396	10.425	0.117	0.000	99.409
MA-059-01	41.827	0.481	21.316	0.770	19.635	4.492	0.347	10.231	0.040	0.004	99.143
MA-059-02	41.676	0.410	21.570	0.865	19.454	4.557	0.370	10.372	0.027	0.006	99.307
MA-063-03	42.553	0.569	21.048	1.920	21.366	4.409	0.281	8.073	0.069	0.004	100.292
MA-065-03	42.393	0.433	20.571	2.676	20.806	4.784	0.313	7.610	0.040	0.001	99.627
MA-065-04	42.283	0.618	20.675	2.241	21.456	4.588	0.263	7.350	0.037	0.000	99.511
MA-065-05	42.015	0.682	20.729	2.572	20.923	4.862	0.265	7.791	0.063	0.000	99.902
MA-089-01	41.725	0.764	19.892	3.576	20.458	5.375	0.296	7.473	0.042	0.000	99.601
MA-093-09	42.021	0.706	21.543	1.264	20.302	4.435	0.294	9.464	0.072	0.000	100.101
MA-093-10	42.453	0.760	21.930	0.925	20.883	4.987	0.263	7.752	0.040	0.001	99.994
MA-093-12	41.221	0.722	21.837	0.050	18.428	4.396	0.450	12.503	0.088	0.004	99.699
MA-093-13	41.374	0.900	21.363	0.793	19.022	4.613	0.360	11.434	0.087	0.003	99.949
MA-093-17	41.898	0.691	19.971	3.504	20.498	5.316	0.291	7.591	0.042	0.000	99.802
MA-097-08	41.225	0.752	21.533	1.350	19.091	4.689	0.402	10.792	0.082	0.004	99.920
MA-099-13	41.824	0.652	21.533	1.321	19.881	4.556	0.338	9.825	0.090	0.000	100.020
MA-099-14	41.834	0.757	20.703	2.258	20.460	5.128	0.295	8.485	0.059	0.000	99.979
MA-101-04	42.055	0.815	21.146	1.513	20.380	4.697	0.283	8.935	0.070	0.000	99.894
MA-103-05	41.771	1.095	19.378	3.155	20.420	5.318	0.256	7.818	0.049	0.001	99.261
MA-123-03	41.520	0.795	21.446	0.958	18.835	5.296	0.376	10.440	0.046	0.005	99.717
MA-131-02	42.299	0.540	21.766	1.521	21.073	4.569	0.293	8.084	0.059	0.004	100.208
MA-135-12	41.520	0.986	21.511	0.958	19.409	4.547	0.386	10.720	0.102	0.000	100.139
MA-135-14	41.612	1.191	19.443	3.325	20.225	5.556	0.261	7.999	0.042	0.000	99.654
MA-135-15	41.666	0.689	21.559	1.112	19.216	4.498	0.391	10.816	0.077	0.000	100.024
MA-135-16	41.870	0.789	21.204	1.436	19.934	4.803	0.321	9.601	0.082	0.001	100.041

Sample	SiO2	TiO2	Al2O3	Cr2O3	MgO	CaO	MnO	FeO	Na2O	K2O	Total
MA-135-19	41.677	0.526	22.236	0.467	18.631	4.501	0.437	11.977	0.075	0.000	100.527
MA-135-20	42.062	0.851	21.284	1.222	20.229	4.769	0.291	9.436	0.063	0.000	100.207
MA-135-21	41.771	1.049	21.496	0.458	19.360	4.519	0.367	10.971	0.107	0.000	100.098
MA-137-05	41.323	0.725	19.922	3.128	20.339	5.499	0.324	8.251	0.032	0.000	99.543
MA-137-18	41.897	0.746	21.663	0.954	19.864	4.567	0.348	9.874	0.095	0.000	100.008
MA-137-19	41.957	0.783	20.938	1.591	20.161	4.487	0.326	9.577	0.074	0.000	99.894
MA-137-20	41.558	0.978	20.295	2.529	20.402	5.253	0.289	8.723	0.047	0.002	100.076
MA-137-28	41.702	0.841	20.563	1.814	19.997	4.724	0.313	9.837	0.076	0.000	99.867
MA-139-05	41.373	1.024	21.416	0.422	18.368	4.885	0.378	11.968	0.113	0.000	99.947
MA-141-02	41.646	1.103	21.109	0.311	18.952	4.895	0.361	11.474	0.103	0.007	99.961
MA-143-05	41.879	0.710	21.115	1.531	19.970	4.667	0.341	9.650	0.078	0.004	99.945
MA-143-08	41.508	0.848	21.825	0.456	18.942	4.444	0.391	11.602	0.095	0.000	100.111
MA-147-06	41.602	0.643	21.757	0.731	18.945	4.480	0.399	11.187	0.072	0.004	99.820
MA-147-07	41.502	0.784	21.659	0.393	19.029	4.479	0.373	11.410	0.081	0.002	99.712
MA-157-02	41.576	0.913	20.450	2.399	20.174	5.178	0.314	8.369	0.053	0.000	99.426
MA-179-03	42.028	0.480	20.269	3.674	20.878	5.161	0.290	6.944	0.034	0.002	99.760
MA-187-15	41.413	0.490	21.264	1.988	19.299	5.131	0.417	9.897	0.039	0.000	99.938
MA-187-16	41.805	0.530	21.205	1.870	20.129	5.245	0.333	8.795	0.025	0.000	99.937
MA-197-02	41.728	0.992	21.189	1.087	19.433	4.844	0.368	10.459	0.090	0.003	100.193
MA-199-26	41.395	0.537	20.357	3.403	19.687	5.305	0.352	8.827	0.044	0.000	99.907
MA-199-30	41.912	0.527	20.305	3.031	19.970	5.542	0.325	8.339	0.036	0.001	99.988
MA-207-01	41.892	0.454	21.319	2.388	21.067	4.759	0.340	7.721	0.037	0.001	99.978
MA-209-05	41.527	0.509	20.755	3.291	20.852	4.806	0.352	7.166	0.053	0.006	99.317
MA-239-02	42.068	0.585	20.220	3.794	20.852	5.102	0.264	6.645	0.041	0.000	99.571
MA-245-07	42.076	0.582	20.425	3.949	20.892	4.826	0.314	7.184	0.066	0.007	100.321
MA-261-01	41.691	0.557	20.872	3.019	19.801	4.955	0.396	8.817	0.056	0.003	100.167
MA-317-03	41.778	0.741	20.345	3.223	21.058	5.241	0.313	7.494	0.041	0.000	100.234
MA-355-02	41.580	0.556	20.366	3.065	20.138	5.588	0.323	8.085	0.025	0.000	99.726
MA-359-04	41.501	0.518	22.008	0.198	18.122	4.530	0.476	12.586	0.065	0.002	100.006
MA-367-01	41.467	0.518	21.024	2.989	21.250	4.706	0.310	7.280	0.057	0.002	99.603
MA-403-01	41.901	0.795	20.691	2.529	20.452	4.613	0.325	8.931	0.098	0.004	100.339
MA-407-01	41.902	0.441	20.971	3.214	21.622	4.323	0.287	7.155	0.071	0.006	99.992
MA-407-02	41.775	0.638	20.125	3.568	20.863	5.128	0.295	7.246	0.052	0.004	99.694
MA-411-02	42.060	0.449	20.298	3.753	20.858	5.124	0.297	7.399	0.033	0.002	100.273
MA-417-07	41.768	0.684	21.280	1.670	20.303	4.192	0.360	9.623	0.097	0.000	99.977
MA-423-07	41.286	0.852	20.007	3.351	20.502	5.297	0.307	7.588	0.061	0.002	99.253
MA-423-08	41.668	0.775	20.140	3.684	21.132	5.256	0.266	7.115	0.037	0.003	100.076
MA-423-15	41.932	0.865	21.931	0.201	19.194	4.744	0.404	11.093	0.082	0.000	100.446
MA-423-16	41.879	0.936	20.190	2.865	20.736	5.211	0.296	7.960	0.051	0.000	100.124
MA-423-54	41.935	0.774	20.436	2.524	20.823	5.088	0.324	8.142	0.064	0.000	100.110
MA-423-55	41.477	0.950	20.058	2.628	20.441	5.447	0.321	8.225	0.064	0.007	99.618

Sample	SiO2	TiO2	Al2O3	Cr2O3	MgO	CaO	MnO	FeO	Na2O	K2O	Total
MA-429-02	42.133	0.422	20.536	3.795	21.804	5.088	0.285	6.395	0.042	0.000	100.500
MA-429-09	41.375	1.034	20.540	1.661	19.609	4.899	0.351	10.013	0.122	0.000	99.604
MA-429-10	41.658	0.748	21.186	1.230	18.848	4.869	0.405	11.138	0.089	0.004	100.175
MA-431-07	42.078	0.585	20.081	3.424	21.202	4.927	0.256	7.704	0.056	0.000	100.313
MA-431-18	41.654	0.716	20.388	2.983	21.211	5.186	0.250	7.202	0.032	0.007	99.629
MA-431-26	41.669	1.085	20.169	2.642	20.427	4.864	0.309	8.783	0.090	0.002	100.040
MA-431-27	41.848	0.932	21.674	0.067	18.964	4.883	0.401	11.564	0.114	0.000	100.447
MA-431-29	41.913	0.451	22.341	0.437	19.125	4.462	0.388	10.843	0.061	0.000	100.021
MA-431-31	41.817	0.740	21.235	2.028	20.593	4.545	0.317	9.028	0.082	0.000	100.385
MA-431-32	41.727	0.791	21.402	1.683	20.324	4.543	0.295	9.425	0.080	0.008	100.278
MA-433-03	41.404	0.734	20.100	3.699	20.614	4.846	0.314	8.228	0.062	0.002	100.003
MA-433-32	41.641	0.908	21.636	0.534	18.828	4.897	0.380	11.198	0.104	0.014	100.140
MA-433-33	42.311	0.859	21.179	1.489	21.136	4.876	0.257	8.138	0.037	0.000	100.282
MA-433-34	42.108	0.896	22.201	0.228	19.749	4.611	0.367	10.536	0.093	0.003	100.792
MA-433-35	42.208	0.476	21.342	1.689	20.723	4.613	0.285	8.843	0.057	0.000	100.236
MA-433-36	41.623	0.828	21.885	0.210	18.710	4.926	0.425	11.693	0.081	0.000	100.381
MA-433-37	41.687	0.778	21.824	0.695	19.486	4.358	0.360	11.324	0.087	0.000	100.599
MA-433-38	42.001	0.825	21.515	1.310	19.965	4.416	0.334	9.987	0.098	0.000	100.451
MA-435-01	41.878	0.800	20.861	1.808	21.093	4.630	0.291	8.640	0.076	0.002	100.079
MA-441-05	41.932	0.746	20.592	2.649	20.448	4.639	0.341	8.939	0.113	0.006	100.405
MA-441-06	41.985	0.836	20.729	2.277	21.002	5.054	0.277	7.835	0.050	0.000	100.045
MA-441-07	41.949	0.871	20.534	2.171	20.618	5.035	0.297	8.590	0.065	0.000	100.130
MA-441-08	41.678	0.698	21.562	1.408	19.208	4.677	0.381	10.715	0.087	0.000	100.414
MA-441-62	41.497	0.663	21.691	0.312	18.710	4.835	0.463	11.910	0.056	0.000	100.137
MA-451-04	41.815	0.834	21.436	1.701	20.432	4.650	0.359	9.304	0.082	0.010	100.623
MA-489-26	42.623	0.550	20.897	2.805	21.927	4.641	0.297	6.700	0.056	0.009	100.505
MA-491-01	41.870	0.501	20.561	3.211	20.722	5.097	0.278	7.692	0.039	0.006	99.977
MA-493-01	41.762	0.864	20.626	2.700	20.482	5.176	0.323	8.389	0.052	0.009	100.383
MA-493-02	42.091	0.489	20.576	3.536	21.920	4.870	0.255	6.150	0.046	0.000	99.933
MA-493-11	41.886	1.133	21.835	0.552	20.988	4.359	0.289	8.921	0.076	0.000	100.039
MA-493-14	41.594	0.421	22.500	0.426	19.823	4.282	0.473	10.733	0.047	0.005	100.304
MA-495-01	41.529	0.758	20.098	3.465	20.678	5.209	0.325	7.651	0.069	0.010	99.792
MA-495-02	42.197	0.523	21.371	2.216	21.516	4.432	0.308	7.749	0.051	0.000	100.363
MA-495-06	41.505	0.951	19.958	3.091	20.633	5.229	0.343	7.946	0.067	0.004	99.727
MA-495-09	42.089	0.763	21.268	1.904	21.329	4.884	0.267	7.624	0.045	0.003	100.176
MA-495-12	41.983	0.737	20.626	2.671	21.278	5.173	0.250	7.331	0.051	0.002	100.102
MA-495-17	41.638	0.820	21.575	0.569	18.916	4.409	0.398	11.794	0.094	0.000	100.213
MA-495-18	41.816	0.685	21.988	0.928	19.547	4.885	0.388	9.930	0.061	0.000	100.228
MA-495-19	41.697	0.741	22.107	0.230	19.808	4.626	0.413	10.507	0.095	0.002	100.226
MA-515-02	41.700	0.970	21.237	0.981	19.291	4.765	0.352	10.934	0.089	0.000	100.319

Sample	SiO2	TiO2	Al2O3	Cr2O3	MgO	CaO	MnO	FeO	Na2O	K2O	Total
Crustal Garnets											
MA-003-20	37.040	0.118	20.674	0.024	1.258	8.521	2.306	29.943	0.000	0.000	99.884
MA-005-11	39.279	0.093	21.674	0.135	9.946	6.201	0.486	22.468	0.008	0.000	100.290
MA-005-19	37.921	0.020	21.496	0.047	7.791	1.269	0.988	30.004	0.000	0.000	99.536
MA-005-51	38.388	0.227	18.886	0.039	0.080	35.014	1.174	5.115	0.000	0.005	98.928
MA-027-06	38.967	0.127	21.039	0.014	7.763	6.495	0.772	24.827	0.000	0.002	100.006
MA-027-07	39.494	0.038	21.429	0.098	8.733	5.964	0.603	24.137	0.000	0.001	100.497
MA-027-08	37.120	0.005	20.111	0.039	4.426	0.905	0.618	35.882	0.000	0.000	99.106
MA-027-09	38.186	0.444	13.762	0.000	0.108	33.699	1.364	11.222	0.000	0.006	98.791
MA-027-80	36.432	0.041	20.537	0.000	1.567	1.126	14.389	26.208	0.000	0.010	100.310
MA-027-81	38.852	0.096	21.666	0.044	9.820	5.657	0.675	22.377	0.001	0.007	99.195
MA-039-02	37.329	0.024	21.040	0.042	4.665	1.144	2.296	33.267	0.000	0.010	99.817
MA-039-03	37.250	0.008	20.464	0.009	4.059	0.906	2.269	34.895	0.000	0.000	99.860
MA-039-30	36.421	0.105	20.593	0.000	1.203	1.058	13.754	27.477	0.000	0.000	100.611
MA-039-31	36.126	0.039	20.256	0.017	1.196	0.746	13.956	27.127	0.000	0.000	99.463
MA-043-04	36.233	0.010	20.446	0.002	0.864	0.917	13.080	28.570	0.000	0.000	100.122
MA-043-35	37.155	0.118	20.839	0.019	0.682	10.829	0.814	29.871	0.001	0.000	100.328
MA-057-30	37.204	0.045	19.742	0.000	1.216	7.042	2.193	32.305	0.000	0.000	99.747
MA-057-31	37.002	0.087	19.934	0.013	0.481	11.395	2.254	28.593	0.008	0.000	99.767
MA-057-33	36.187	0.082	19.398	0.000	0.426	0.571	22.684	19.939	0.013	0.001	99.301
MA-059-32	35.707	0.165	19.826	0.000	0.781	0.522	21.487	20.872	0.009	0.000	99.369
MA-061-04	37.345	0.154	19.573	0.008	0.592	12.478	5.147	24.659	0.000	0.000	99.956
MA-063-02	38.669	0.029	21.204	0.191	7.783	5.421	0.795	25.880	0.000	0.004	99.976
MA-065-06	37.207	0.110	20.186	0.000	0.909	9.397	1.441	30.306	0.001	0.000	99.557
MA-079-23	35.488	0.090	19.879	0.000	0.455	0.261	22.890	19.586	0.038	0.000	98.687
MA-093-14	38.724	0.075	21.159	0.030	5.506	11.711	0.845	22.156	0.004	0.000	100.210
MA-093-15	38.454	0.114	21.004	0.098	6.150	7.047	0.949	26.501	0.000	0.000	100.317
MA-093-20	37.798	0.030	21.294	0.013	5.519	1.747	0.596	33.496	0.000	0.000	100.493
MA-093-21	36.891	0.043	20.816	0.003	2.621	1.117	1.588	37.376	0.000	0.000	100.455
MA-093-22	36.276	0.057	20.475	0.000	0.570	0.569	13.964	28.447	0.002	0.006	100.366
MA-097-10	38.408	0.048	21.069	0.019	4.481	10.129	0.641	25.304	0.000	0.000	100.099
MA-097-11	38.754	0.062	21.488	0.045	9.009	3.638	0.421	26.128	0.000	0.000	99.545
MA-097-12	38.655	0.033	21.878	0.023	8.608	0.978	0.426	29.528	0.000	0.000	100.129
MA-097-14	36.230	0.066	20.203	0.000	0.499	0.622	25.590	16.859	0.005	0.000	100.074
MA-097-15	36.257	0.063	20.065	0.002	0.793	1.018	22.497	19.094	0.003	0.000	99.792
MA-099-12	38.443	0.106	21.044	0.056	6.555	7.376	0.974	25.604	0.000	0.004	100.162
MA-103-01	38.250	0.087	20.905	0.017	5.244	9.105	0.763	25.723	0.000	0.000	100.094
MA-123-04	37.919	0.712	16.578	0.001	0.110	33.771	1.244	8.646	0.001	0.005	98.987
MA-135-10	37.435	0.004	20.787	0.037	4.061	1.814	1.015	35.082	0.000	0.000	100.235
MA-135-17	38.434	0.104	20.791	0.017	5.450	9.887	1.359	23.778	0.000	0.000	99.820

Sample	SiO2	TiO2	Al2O3	Cr2O3	MgO	CaO	MnO	FeO	Na2O	K2O	Total
MA-137-21	39.131	0.114	21.621	0.011	9.376	5.714	0.663	23.401	0.000	0.000	100.031
MA-137-22	39.010	0.068	21.529	0.022	8.440	6.080	0.429	24.547	0.000	0.005	100.130
MA-137-23	38.590	0.066	21.005	0.014	7.067	6.242	0.915	26.407	0.000	0.000	100.306
MA-137-24	38.445	0.115	21.155	0.000	7.747	6.093	0.824	25.707	0.000	0.000	100.086
MA-137-25	38.004	0.103	21.008	0.016	4.055	8.689	0.201	28.049	0.000	0.013	100.138
MA-145-02	38.190	0.095	21.144	0.082	6.069	6.772	1.135	26.547	0.003	0.000	100.037
MA-155-04	39.068	0.051	21.633	0.027	8.593	4.147	0.852	26.003	0.000	0.000	100.374
MA-171-03	38.556	0.136	21.051	0.021	6.407	6.902	0.766	26.111	0.000	0.000	99.950
MA-171-04	36.454	0.264	19.231	0.013	1.034	1.344	28.939	12.578	0.048	0.008	99.913
MA-177-02	37.901	0.130	20.842	0.000	4.675	5.482	3.124	28.196	0.018	0.000	100.368
MA-177-03	37.101	0.056	21.052	0.035	2.773	4.754	1.115	33.721	0.000	0.000	100.607
MA-181-07	35.389	0.060	20.179	0.000	0.420	0.706	17.270	24.576	0.000	0.003	98.603
MA-197-03	36.729	0.000	20.914	0.013	2.682	0.665	2.239	36.964	0.000	0.013	100.219
MA-199-24	37.231	0.000	21.311	0.036	4.563	1.108	1.041	35.134	0.000	0.006	100.430
MA-213-05	39.395	0.026	21.650	0.072	10.621	2.529	0.424	25.408	0.000	0.000	100.125
MA-213-06	38.962	0.056	21.590	0.130	9.058	4.340	0.628	25.664	0.000	0.002	100.430
MA-225-09	39.060	0.080	21.352	0.034	8.490	6.103	0.490	24.383	0.000	0.000	99.992
MA-225-10	39.344	0.007	22.043	0.090	10.261	2.903	0.596	25.264	0.002	0.001	100.511
MA-239-04	41.672	0.065	23.512	0.197	17.205	7.068	0.235	10.521	0.004	0.000	100.479
MA-245-01	36.941	0.023	20.929	0.000	3.055	1.157	1.356	36.848	0.000	0.000	100.309
MA-245-02	37.017	0.021	21.261	0.011	4.195	0.513	2.062	35.445	0.000	0.004	100.529
MA-265-15	37.310	0.052	21.143	0.004	4.761	1.605	0.694	34.782	0.000	0.003	100.354
MA-265-16	37.428	0.053	21.439	0.004	5.276	3.323	3.570	29.107	0.002	0.000	100.202
MA-269-08	37.692	0.122	20.399	0.015	3.311	8.555	1.180	29.153	0.012	0.006	100.445
MA-285-02	38.823	0.115	21.721	0.060	8.065	6.393	0.712	24.558	0.000	0.000	100.447
MA-303-08	36.954	0.029	21.532	0.039	4.231	1.215	5.870	30.643	0.000	0.007	100.520
MA-305-04	38.685	0.092	21.476	0.045	6.890	6.647	0.739	26.038	0.000	0.000	100.612
MA-305-05	37.890	0.082	20.916	0.022	4.003	8.970	0.830	27.756	0.000	0.000	100.469
MA-305-07	35.988	0.142	19.882	0.000	0.374	0.473	23.966	19.194	0.015	0.000	100.034
MA-415-02	35.962	0.129	19.606	0.000	0.454	0.420	21.810	21.072	0.034	0.005	99.492
MA-423-17	36.524	0.002	20.945	0.016	2.536	0.482	1.929	37.976	0.000	0.000	100.410
MA-429-08	38.490	0.134	21.306	0.021	3.828	11.490	0.317	25.139	0.005	0.000	100.730
MA-429-11	38.914	0.022	18.178	0.000	0.026	34.448	0.161	8.043	0.000	0.000	99.792
MA-431-10	36.272	0.037	20.154	0.000	0.881	2.243	4.409	36.318	0.000	0.000	100.314
MA-431-33	38.157	0.191	18.122	0.039	0.080	28.637	2.129	11.694	0.000	0.000	99.049
MA-431-34	38.447	0.086	20.973	0.170	6.906	6.057	1.548	26.165	0.000	0.005	100.357
MA-431-35	36.539	0.017	20.001	0.006	1.058	3.553	13.752	24.853	0.000	0.001	99.780
MA-431-36	38.610	0.100	21.398	0.077	7.502	6.072	0.906	26.036	0.000	0.010	100.711
MA-431-37	36.307	0.095	20.010	0.000	0.236	0.196	27.790	15.871	0.000	0.000	100.505
MA-431-38	36.192	0.065	19.866	0.000	0.242	0.610	23.325	19.854	0.014	0.007	100.175
MA-431-92	39.654	0.044	21.445	0.042	11.429	4.580	0.461	22.258	0.005	0.000	99.918

Sample	SiO2	TiO2	Al2O3	Cr2O3	MgO	CaO	MnO	FeO	Na2O	K2O	Total
MA-433-39	39.125	0.049	21.508	0.034	6.693	10.396	0.504	21.993	0.000	0.001	100.303
MA-433-40	35.850	0.086	19.979	0.000	0.181	0.741	21.513	21.585	0.000	0.000	99.935
MA-441-02	38.497	0.034	29.210	0.000	0.055	24.067	0.191	4.895	0.014	0.000	96.963
MA-441-09	38.471	0.078	21.368	0.078	7.071	6.059	1.132	26.308	0.000	0.000	100.565
MA-441-10	37.560	0.262	20.851	0.012	1.462	10.982	4.490	24.970	0.007	0.000	100.596
MA-441-11	38.594	0.076	21.082	0.039	6.832	6.046	0.955	26.407	0.001	0.014	100.046
MA-443-02	38.901	0.212	19.529	0.014	0.079	34.882	0.348	5.791	0.001	0.000	99.757
MA-453-06	38.631	0.062	21.498	0.085	7.671	6.124	1.297	24.540	0.000	0.003	99.911
MA-467-14	36.152	0.094	20.005	0.000	0.619	0.350	27.794	14.729	0.004	0.004	99.751
MA-467-15	35.511	0.023	19.820	0.000	0.174	0.147	21.839	21.592	0.000	0.001	99.107
MA-477-11	36.356	0.091	19.956	0.000	0.735	0.206	23.387	19.226	0.003	0.002	99.962
MA-479-12	39.418	0.246	20.252	0.010	0.130	34.415	0.174	5.557	0.004	0.000	100.206
MA-489-02	37.168	0.042	20.544	0.003	1.224	7.474	11.262	22.661	0.000	0.012	100.390
MA-489-03	37.294	0.005	21.263	0.000	5.438	0.810	1.889	33.415	0.000	0.000	100.114
MA-489-04	37.322	0.141	20.650	0.076	2.649	5.216	5.244	29.009	0.000	0.000	100.307
MA-489-05	37.105	0.086	20.374	0.000	0.986	10.801	5.011	25.279	0.002	0.000	99.644
MA-489-06	37.272	0.113	20.834	0.002	1.447	8.061	4.780	27.908	0.012	0.000	100.429
MA-489-07	37.441	0.225	20.585	0.000	1.755	9.358	4.284	26.459	0.011	0.000	100.118
MA-489-08	37.994	0.013	21.482	0.048	6.185	1.027	0.806	33.114	0.000	0.002	100.671
MA-489-09	39.004	0.038	21.829	0.186	9.136	4.338	0.603	25.243	0.000	0.002	100.379
MA-489-10	36.564	0.055	20.109	0.000	1.234	1.182	20.818	20.268	0.008	0.001	100.239
MA-489-11	35.859	0.017	19.921	0.000	0.421	0.185	20.315	22.928	0.000	0.000	99.646
MA-493-04	37.708	0.020	20.843	0.002	5.197	3.386	1.931	30.993	0.000	0.011	100.091
MA-493-09	37.737	0.062	21.008	0.036	4.072	7.405	0.937	29.061	0.000	0.000	100.318
MA-493-10	37.511	0.261	20.370	0.004	1.047	13.353	5.094	22.324	0.006	0.000	99.970
MA-493-12	36.043	0.123	19.804	0.000	0.914	0.801	19.724	21.850	0.016	0.001	99.276
MA-493-13	38.890	0.054	21.706	0.027	8.169	6.795	0.556	24.137	0.000	0.000	100.334
MA-515-03	38.569	0.183	17.638	0.024	0.135	34.920	0.259	7.224	0.000	0.002	98.954
MA-515-04	39.040	0.147	18.172	0.002	0.132	35.381	0.239	6.322	0.000	0.001	99.436
MA-515-05	38.730	0.015	17.800	0.021	0.071	34.073	0.251	8.575	0.000	0.000	99.536
Andradite											
MA-191-01	34.621	0.742	0.526	2.027	0.362	33.590	0.017	24.472	0.000	0.000	96.357
MA-399-02	34.294	1.832	0.570	1.420	0.355	33.564	0.000	24.221	0.000	0.000	96.256
MA-399-03	35.093	0.303	0.627	0.271	0.509	33.109	0.020	26.611	0.000	0.005	96.548
MA-433-68	35.024	0.257	0.501	0.969	0.248	33.242	0.018	26.314	0.000	0.002	96.575
MA-443-15	35.800	0.097	3.159	1.435	0.058	33.851	0.038	23.301	0.000	0.000	97.739
Uvarovite											
MA-337-04	37.946	0.211	14.672	9.858	0.154	33.149	2.122	1.901	0.009	0.007	100.029

Sample	SiO2	TiO2	Nb2O5	Al2O3	Cr2O3	V2O5	MgO	MnO	FeO*	NiO	ZnO	Total	Fe2O3	FeO	Total
MA-099-16	0.082	0.277	0.000	13.680	51.435	0.136	6.704	0.491	25.619	0.031	0.598	99.053	2.666	23.220	99.320
MA-099-18	0.140	0.285	0.028	13.310	51.262	0.126	6.660	0.571	26.414	0.115	0.144	99.055	3.141	23.587	99.370
MA-099-20	0.064	0.553	0.000	10.644	50.632	0.286	8.371	0.256	27.762	0.082	0.111	98.761	7.219	21.266	99.484
MA-099-21	0.107	0.324	0.000	13.208	53.372	0.197	11.381	0.218	20.137	0.139	0.072	99.155	3.644	16.858	99.520
MA-099-22	0.117	1.139	0.000	7.514	52.926	0.208	9.277	0.227	27.029	0.193	0.065	98.695	8.016	19.816	99.498
MA-103-02	0.053	1.004	0.035	14.482	46.361	0.289	5.769	0.434	30.580	0.098	0.212	99.317	4.938	26.137	99.812
MA-103-03	0.174	0.274	0.021	13.133	55.349	0.098	12.909	0.207	17.271	0.173	0.044	99.653	3.003	14.569	99.954
MA-103-04	0.053	1.089	0.019	14.539	48.035	0.214	7.212	0.435	27.561	0.082	0.170	99.409	4.015	23.948	99.811
MA-105-03	0.140	0.518	0.000	29.160	32.168	0.243	13.541	0.199	23.340	0.198	0.071	99.578	7.579	16.520	100.337
MA-115-01	0.125	0.335	0.000	13.255	53.781	0.144	9.997	0.300	21.525	0.127	0.058	99.647	2.783	19.021	99.926
MA-119-09	0.144	0.272	0.019	13.369	54.564	0.135	12.161	0.193	18.626	0.181	0.063	99.727	3.162	15.781	100.044
MA-119-10	0.107	1.484	0.007	27.303	36.430	0.154	15.455	0.122	18.134	0.187	0.087	99.470	4.615	13.981	99.932
MA-119-11	0.181	0.934	0.000	32.032	31.612	0.102	16.193	0.150	18.139	0.253	0.051	99.647	5.573	13.124	100.205
MA-119-12	0.203	1.126	0.032	28.237	36.169	0.151	16.228	0.110	16.797	0.253	0.047	99.353	4.539	12.713	99.808
MA-119-13	0.171	0.314	0.033	14.324	54.590	0.131	14.268	0.149	15.599	0.188	0.040	99.807	3.035	12.868	100.111
MA-119-15	0.075	0.835	0.005	11.280	48.655	0.233	3.186	1.753	32.965	0.044	0.489	99.520	5.639	27.891	100.085
MA-119-16	0.068	0.443	0.000	14.389	50.690	0.183	6.817	0.505	26.160	0.099	0.342	99.696	2.705	23.726	99.967
MA-119-17	0.072	0.205	0.061	18.223	50.876	0.153	9.455	0.346	20.154	0.048	0.341	99.934	0.000	20.154	99.934
MA-119-18	0.068	1.472	0.009	14.114	45.946	0.337	3.630	0.779	32.112	0.155	0.675	99.297	3.476	28.984	99.645
MA-119-19	0.168	0.298	0.026	14.089	54.643	0.189	13.115	0.162	17.035	0.173	0.037	99.935	2.595	14.700	100.195
MA-119-20	0.107	0.430	0.000	16.440	49.362	0.221	12.260	0.212	20.212	0.158	0.091	99.493	4.407	16.246	99.935
MA-119-21	0.154	0.460	0.032	9.136	55.203	0.166	9.245	0.239	24.637	0.136	0.086	99.494	5.420	19.760	100.037
MA-119-22	0.064	0.899	0.000	12.927	55.449	0.400	12.052	0.205	18.014	0.098	0.149	100.257	1.282	16.861	100.385
MA-119-23	0.108	0.435	0.058	14.522	51.146	0.200	8.706	0.340	24.217	0.129	0.093	99.954	3.089	21.437	100.263
MA-119-24	0.076	0.377	0.000	13.534	55.519	0.175	11.962	0.219	17.940	0.078	0.075	99.955	1.849	16.276	100.140
MA-119-25	0.069	1.220	0.009	14.464	48.658	0.275	10.928	0.225	23.993	0.152	0.086	100.079	5.622	18.934	100.642
MA-119-27	0.098	0.269	0.057	7.857	52.692	0.094	0.540	2.038	32.732	0.025	2.984	99.386	5.104	28.139	99.897
MA-119-28	0.144	0.218	0.004	5.526	56.791	0.093	0.472	1.788	33.210	0.011	1.555	99.812	4.081	29.538	100.221
MA-119-30	0.086	0.894	0.000	15.096	46.582	0.271	10.336	0.263	26.080	0.151	0.102	99.861	7.247	19.559	100.587
MA-119-31	0.147	0.318	0.000	12.923	49.774	0.140	1.151	1.869	32.488	0.129	1.137	100.076	2.679	30.077	100.344
MA-119-32	0.120	0.389	0.000	8.551	53.102	0.097	0.721	1.934	33.191	0.084	1.591	99.780	4.105	29.497	100.191
MA-119-33	0.172	0.265	0.058	13.402	52.133	0.143	6.973	0.835	24.931	0.170	0.464	99.546	2.443	22.733	99.791
MA-119-34	0.096	0.407	0.009	13.159	54.457	0.172	11.405	0.229	19.537	0.093	0.066	99.630	2.795	17.022	99.910
MA-119-36	0.156	0.371	0.000	13.601	51.582	0.152	9.785	0.251	22.972	0.128	0.069	99.067	4.016	19.358	99.469
MA-119-37	0.163	1.166	0.000	26.422	37.328	0.140	15.655	0.136	17.874	0.228	0.059	99.171	5.217	13.180	99.694
MA-119-38	0.070	0.303	0.021	13.176	53.461	0.131	5.651	0.390	25.894	0.097	0.279	99.473	0.763	25.207	99.549
MA-127-10	0.088	0.594	0.000	12.264	51.799	0.239	8.347	0.230	25.444	0.105	0.120	99.230	4.218	21.649	99.653
MA-129-06	0.051	0.764	0.000	11.398	50.708	0.271	9.331	0.269	26.517	0.076	0.096	99.481	6.912	20.297	100.174
MA-131-03	0.064	1.224	0.018	13.785	46.210	0.328	5.575	0.406	31.059	0.117	0.313	99.099	5.143	26.431	99.614
MA-131-04	0.121	0.302	0.000	12.829	53.748	0.157	11.032	0.204	20.595	0.129	0.049	99.166	3.642	17.318	99.531
MA-131-05	0.139	0.309	0.033	15.603	48.444	0.170	7.641	0.613	25.945	0.123	0.099	99.119	3.759	22.563	99.496

Sample	SiO2	TiO2	Nb2O5	Al2O3	Cr2O3	V2O5	MgO	MnO	FeO*	NiO	ZnO	Total	Fe2O3	FeO	Total
MA-131-06	0.146	1.207	0.000	27.290	35.394	0.153	15.529	0.147	19.281	0.228	0.061	99.436	6.275	13.635	100.065
MA-135-22	0.056	0.787	0.016	15.352	45.008	0.310	6.483	0.436	30.408	0.120	0.128	99.104	6.002	25.007	99.705
MA-135-23	0.116	0.281	0.000	13.317	54.902	0.101	12.847	0.174	17.353	0.177	0.035	99.303	3.132	14.535	99.617
MA-135-24	0.101	0.494	0.040	36.549	29.353	0.137	17.318	0.108	15.072	0.270	0.080	99.522	3.818	11.636	99.905
MA-137-30	0.064	0.967	0.000	14.802	48.474	0.295	11.375	0.226	22.781	0.131	0.076	99.191	5.499	17.833	99.742
MA-137-31	0.120	0.527	0.027	28.581	33.500	0.233	13.820	0.165	22.135	0.197	0.071	99.376	6.871	15.953	100.064
MA-137-32	0.105	0.346	0.000	11.625	50.099	0.134	2.429	0.641	33.558	0.093	0.152	99.182	4.181	29.796	99.601
MA-137-33	0.089	0.969	0.000	14.071	48.606	0.304	7.550	0.366	26.530	0.165	0.485	99.135	3.893	23.027	99.525
MA-137-34	0.075	0.830	0.000	14.009	47.967	0.244	7.005	0.406	28.069	0.125	0.141	98.871	4.680	23.858	99.340
MA-137-35	0.075	0.601	0.000	16.180	49.902	0.218	8.798	0.348	23.328	0.109	0.167	99.726	2.044	21.489	99.931
MA-137-36	0.123	0.357	0.007	12.940	51.269	0.174	9.137	0.227	24.715	0.100	0.091	99.140	4.905	20.301	99.631
MA-137-38	0.142	0.557	0.005	31.417	34.885	0.188	17.090	0.136	15.218	0.241	0.065	99.944	4.147	11.487	100.359
MA-137-39	0.057	1.576	0.000	11.772	48.271	0.276	8.836	0.305	27.651	0.116	0.084	98.944	6.702	21.621	99.615
MA-137-40	0.052	1.080	0.000	13.104	49.438	0.391	10.219	0.281	24.914	0.128	0.129	99.736	5.850	19.650	100.322
MA-137-41	0.082	0.334	0.042	12.402	53.715	0.170	10.584	0.262	21.853	0.126	0.085	99.655	4.223	18.053	100.078
MA-137-42	0.149	1.333	0.056	28.512	33.485	0.155	15.142	0.146	20.363	0.228	0.062	99.631	6.340	14.658	100.266
MA-137-43	0.109	1.706	0.000	28.734	33.424	0.159	15.497	0.142	19.338	0.213	0.068	99.390	5.589	14.309	99.950
MA-137-44	0.100	1.220	0.000	7.651	52.055	0.210	8.687	0.248	28.472	0.193	0.068	98.904	8.475	20.846	99.753
MA-137-45	0.082	0.725	0.000	12.327	48.727	0.261	9.090	0.313	27.355	0.126	0.080	99.086	7.499	20.607	99.837
MA-137-46	0.051	0.531	0.000	8.102	55.299	0.123	10.094	0.217	23.674	0.112	0.122	98.325	6.544	17.785	98.981
MA-137-47	0.067	0.846	0.000	12.624	49.459	0.264	9.769	0.233	25.150	0.102	0.092	98.606	6.141	19.625	99.221
MA-137-48	0.073	0.628	0.005	13.855	49.957	0.205	7.170	0.368	27.110	0.100	0.162	99.633	3.884	23.616	100.022
MA-137-49	0.143	0.363	0.000	13.231	53.536	0.162	11.880	0.191	19.409	0.129	0.063	99.107	3.616	16.155	99.469
MA-137-50	0.068	0.143	0.054	21.792	37.225	0.386	4.848	0.370	34.618	0.096	0.316	99.916	7.009	28.311	100.618
MA-137-51	0.122	0.379	0.000	11.502	52.107	0.177	9.115	0.259	25.959	0.111	0.113	99.844	6.278	20.310	100.473
MA-137-52	0.027	1.642	0.000	12.712	46.596	0.312	4.299	0.513	33.339	0.029	0.341	99.810	5.175	28.682	100.329
MA-137-53	0.051	0.678	0.000	12.815	52.563	0.227	10.952	0.244	22.193	0.108	0.046	99.877	4.635	18.022	100.341
MA-137-55	0.135	0.312	0.005	13.896	53.254	0.142	11.113	0.198	20.797	0.128	0.082	100.062	3.517	17.633	100.414
MA-137-56	0.044	0.656	0.000	11.491	51.485	0.248	8.950	0.317	26.253	0.109	0.112	99.665	6.167	20.704	100.283
MA-137-57	0.089	1.110	0.000	13.598	46.374	0.337	5.748	0.362	31.779	0.084	0.287	99.768	5.986	26.393	100.368
MA-137-58	0.131	0.369	0.000	14.339	51.003	0.218	9.538	0.247	24.135	0.118	0.080	100.178	4.278	20.286	100.607
MA-137-59	0.125	0.347	0.056	14.370	53.459	0.104	11.772	0.191	19.379	0.159	0.051	100.013	2.991	16.688	100.313
MA-137-60	0.163	0.146	0.000	28.695	39.799	0.168	16.977	0.129	13.889	0.223	0.043	100.232	3.240	10.974	100.557
MA-137-61	0.128	0.321	0.033	14.619	53.076	0.145	12.787	0.208	18.644	0.145	0.059	100.165	3.776	15.246	100.543
MA-137-62	0.082	0.401	0.021	12.199	52.919	0.247	10.216	0.255	23.330	0.096	0.086	99.852	4.973	18.855	100.350
MA-137-63	0.067	2.217	0.000	13.089	44.596	0.422	9.152	0.407	29.168	0.183	0.134	99.435	7.828	22.124	100.219
MA-137-64	0.120	0.343	0.037	12.849	51.827	0.175	10.108	0.225	23.787	0.095	0.113	99.679	5.341	18.981	100.214
MA-137-65	0.052	1.542	0.000	13.756	45.537	0.320	5.520	0.404	31.770	0.143	0.247	99.291	5.461	26.856	99.838
MA-137-66	0.063	0.766	0.016	16.245	47.743	0.243	8.798	0.450	24.742	0.147	0.112	99.325	3.609	21.495	99.687
MA-137-68	0.142	0.315	0.000	13.483	55.004	0.195	12.281	0.162	17.503	0.096	0.062	99.243	2.040	15.667	99.447
MA-137-70	0.066	1.185	0.000	11.143	47.413	0.321	4.644	0.490	33.224	0.161	0.203	98.850	6.587	27.297	99.510

Sample	SiO2	TiO2	Nb2O5	Al2O3	Cr2O3	V2O5	MgO	MnO	FeO*	NiO	ZnO	Total	Fe2O3	FeO	Total
MA-137-71	0.062	0.955	0.000	11.200	52.112	0.317	9.374	0.316	24.651	0.124	0.129	99.240	4.921	20.223	99.733
MA-137-72	0.100	0.348	0.000	14.317	54.314	0.125	9.969	0.304	19.783	0.099	0.072	99.431	0.772	19.088	99.508
MA-137-73	0.044	1.596	0.046	15.168	46.627	0.328	7.135	0.403	27.944	0.150	0.346	99.787	3.570	24.732	100.145
MA-137-74	0.058	0.687	0.002	15.739	47.840	0.197	7.272	0.439	27.246	0.076	0.192	99.748	3.901	23.736	100.139
MA-137-75	0.209	0.756	0.002	25.236	41.033	0.167	15.866	0.133	16.085	0.209	0.057	99.753	3.881	12.593	100.142
MA-137-76	0.155	0.981	0.012	30.686	34.404	0.122	16.315	0.125	16.819	0.229	0.062	99.910	4.379	12.879	100.349
MA-137-77	0.163	0.646	0.000	33.698	31.742	0.179	16.707	0.123	16.364	0.230	0.059	99.911	4.248	12.542	100.337
MA-137-78	0.166	1.324	0.048	25.920	37.743	0.162	15.494	0.158	18.216	0.216	0.069	99.516	5.060	13.663	100.023
MA-137-79	0.152	0.251	0.030	13.520	55.122	0.113	13.266	0.200	16.512	0.177	0.045	99.388	2.814	13.980	99.670
MA-137-80	0.103	0.331	0.056	13.895	51.286	0.125	9.358	0.250	23.952	0.125	0.086	99.567	4.261	20.118	99.994
MA-137-81	0.245	1.252	0.000	14.681	48.605	0.315	11.681	0.236	22.313	0.129	0.078	99.535	4.839	17.958	100.020
MA-137-82	0.054	1.288	0.000	12.536	49.933	0.402	9.685	0.261	25.178	0.114	0.111	99.562	5.124	20.568	100.075
MA-137-83	0.117	0.402	0.000	14.006	54.133	0.199	13.219	0.205	17.725	0.139	0.070	100.215	3.463	14.609	100.562
MA-137-84	0.078	0.566	0.000	12.786	52.608	0.216	10.794	0.248	21.980	0.109	0.096	99.481	4.429	17.995	99.925
MA-137-85	0.100	0.586	0.000	13.190	52.192	0.257	11.363	0.196	20.612	0.113	0.105	98.714	3.921	17.084	99.107
MA-137-86	0.109	0.350	0.055	13.894	48.396	0.173	4.007	0.326	30.729	0.093	0.882	99.014	3.652	27.443	99.380
MA-137-87	0.102	0.253	0.000	11.648	53.636	0.117	9.280	0.278	23.775	0.125	0.089	99.303	4.601	19.635	99.764
MA-137-88	0.072	1.460	0.056	14.591	46.271	0.327	10.021	0.201	26.299	0.140	0.082	99.520	6.376	20.562	100.159
MA-137-89	0.056	1.113	0.002	10.979	48.119	0.329	8.409	0.307	29.793	0.124	0.105	99.336	8.721	21.946	100.210
MA-139-06	0.097	0.402	0.030	15.889	54.068	0.102	13.493	0.205	14.997	0.120	0.063	99.466	1.017	14.082	99.568
MA-141-04	0.101	0.402	0.012	11.790	50.092	0.233	7.592	0.285	28.360	0.070	0.149	99.086	6.490	22.520	99.736
MA-143-10	0.161	0.975	0.046	31.196	30.805	0.126	13.326	0.365	22.310	0.246	0.085	99.641	5.643	17.232	100.206
MA-143-12	0.130	0.373	0.085	12.041	50.186	0.171	4.107	1.291	30.032	0.126	0.743	99.285	4.159	26.290	99.702
MA-143-13	0.179	1.320	0.079	21.937	42.435	0.126	15.355	0.141	17.931	0.210	0.051	99.764	5.087	13.354	100.274
MA-143-15	0.145	0.388	0.000	13.126	52.461	0.171	10.673	0.217	22.064	0.124	0.046	99.415	4.371	18.131	99.853
MA-143-16	0.114	0.337	0.005	12.190	51.081	0.177	4.879	0.495	29.123	0.124	0.396	98.921	3.464	26.006	99.268
MA-143-17	0.060	0.191	0.000	11.654	51.243	0.063	4.237	0.321	31.016	0.138	0.267	99.190	4.568	26.906	99.648
MA-143-18	0.089	0.067	0.019	30.656	39.659	0.159	16.362	0.127	12.606	0.151	0.102	99.997	0.716	11.962	100.069
MA-143-19	0.106	0.376	0.000	12.545	53.246	0.154	9.692	0.278	23.134	0.136	0.090	99.757	4.100	19.445	100.168
MA-143-20	0.166	0.247	0.000	12.203	52.096	0.069	5.077	0.478	28.504	0.063	0.344	99.247	3.070	25.741	99.555
MA-143-22	0.108	0.356	0.030	12.914	51.163	0.206	8.592	0.274	25.007	0.035	0.133	98.818	4.399	21.048	99.259
MA-145-06	0.076	0.274	0.016	13.377	54.665	0.124	14.288	0.263	15.059	0.108	0.076	98.326	3.441	11.963	98.671
MA-145-07	0.130	0.279	0.000	13.456	53.903	0.136	10.906	0.484	19.773	0.179	0.057	99.303	2.794	17.259	99.583
MA-145-08	0.045	1.377	0.029	2.007	54.961	0.406	8.287	0.352	30.477	0.136	0.140	98.217	10.893	20.675	99.308
MA-145-09	0.133	0.335	0.044	15.817	53.487	0.170	15.841	0.151	13.147	0.209	0.028	99.362	2.854	10.579	99.648
MA-145-10	0.062	0.556	0.000	13.073	52.212	0.248	10.995	0.275	21.666	0.122	0.096	99.305	4.456	17.656	99.751
MA-145-11	0.120	0.420	0.000	13.774	52.860	0.186	12.809	0.227	18.579	0.156	0.063	99.194	4.143	14.851	99.609
MA-145-12	0.094	1.447	0.046	28.022	35.990	0.172	16.247	0.160	16.711	0.230	0.092	99.211	4.428	12.726	99.655
MA-145-13	0.202	0.275	0.000	12.312	52.338	0.146	6.483	1.179	25.913	0.157	0.285	99.290	3.161	23.069	99.607
MA-145-14	0.155	0.262	0.053	12.844	54.606	0.080	11.401	0.193	19.395	0.157	0.047	99.193	3.019	16.679	99.495
MA-145-15	0.030	2.300	0.073	10.846	39.402	0.329	0.975	1.397	42.857	0.115	0.330	98.654	11.030	32.932	99.759

Sample	SiO2	TiO2	Nb2O5	Al2O3	Cr2O3	V2O5	MgO	MnO	FeO*	NiO	ZnO	Total	Fe2O3	FeO	Total
MA-145-16	0.113	0.321	0.021	13.653	52.645	0.160	10.355	0.263	21.637	0.110	0.067	99.345	3.472	18.513	99.693
MA-145-17	0.086	0.344	0.081	13.394	55.901	0.198	13.401	0.181	15.332	0.099	0.084	99.101	1.614	13.879	99.263
MA-145-19	0.075	0.590	0.018	11.221	48.051	0.216	0.603	0.823	34.328	0.013	2.682	98.620	4.538	30.244	99.075
MA-145-20	0.158	0.321	0.035	14.228	54.390	0.109	14.893	0.149	14.062	0.233	0.036	98.614	2.927	11.428	98.907
MA-147-08	0.116	0.346	0.000	12.267	52.178	0.085	6.841	0.408	26.031	0.176	0.332	98.780	3.449	22.927	99.126
MA-147-09	0.138	0.294	0.009	12.036	53.685	0.122	10.054	0.216	21.869	0.096	0.062	98.581	3.765	18.482	98.958
MA-149-01	0.155	0.353	0.035	13.882	51.849	0.209	11.188	0.208	20.633	0.146	0.063	98.721	3.732	17.275	99.095
MA-149-02	0.082	0.811	0.007	13.553	49.796	0.206	10.621	0.200	23.542	0.140	0.093	99.051	5.603	18.500	99.612
MA-149-03	0.141	0.334	0.000	15.243	49.455	0.181	10.544	0.243	22.586	0.154	0.067	98.948	4.647	18.404	99.414
MA-149-04	0.079	0.359	0.002	12.992	51.944	0.111	4.929	0.517	28.222	0.127	0.275	99.557	2.253	26.195	99.783
MA-153-04	0.144	1.081	0.000	24.898	38.512	0.135	15.354	0.187	18.947	0.197	0.077	99.532	6.180	13.386	100.151
MA-153-05	0.130	0.995	0.016	11.467	54.733	0.096	14.400	0.179	16.647	0.153	0.040	98.856	4.686	12.431	99.325
MA-153-06	0.103	1.231	0.024	24.163	39.772	0.126	15.406	0.161	17.927	0.199	0.049	99.161	5.257	13.197	99.688
MA-153-08	0.146	0.280	0.002	14.105	54.228	0.139	13.832	0.195	15.803	0.179	0.047	98.956	3.001	13.103	99.257
MA-155-05	0.064	0.883	0.000	15.856	47.331	0.245	7.622	0.362	26.417	0.122	0.143	99.045	3.441	23.320	99.390
MA-167-02	0.075	1.574	0.000	13.799	43.981	0.350	9.409	0.293	29.080	0.174	0.131	98.866	8.843	21.123	99.752
MA-171-09	0.139	0.290	0.023	13.674	52.037	0.088	6.853	0.981	24.558	0.160	0.520	99.323	2.225	22.556	99.546
MA-171-10	0.094	0.489	0.000	14.449	51.227	0.278	11.220	0.230	21.079	0.093	0.087	99.246	3.855	17.610	99.632
MA-171-11	0.161	0.506	0.036	22.330	44.746	0.133	15.328	0.122	15.657	0.169	0.044	99.232	3.466	12.538	99.579
MA-171-12	0.130	0.296	0.002	14.841	53.868	0.163	13.675	0.195	16.269	0.155	0.068	99.662	2.835	13.718	99.946
MA-181-09	0.170	0.261	0.000	12.222	54.610	0.121	10.999	0.262	20.042	0.130	0.082	98.899	3.311	17.062	99.231
MA-181-10	0.162	0.276	0.037	13.433	54.947	0.088	13.359	0.192	16.438	0.176	0.027	99.135	2.961	13.774	99.432
MA-185-02	0.153	0.556	0.000	17.911	49.516	0.128	15.025	0.125	15.661	0.147	0.045	99.267	3.702	12.330	99.638
MA-185-03	0.064	0.382	0.025	12.842	53.904	0.303	12.009	0.224	19.249	0.097	0.120	99.219	3.572	16.035	99.577
MA-185-04	0.168	0.318	0.058	13.677	52.796	0.163	11.135	0.219	20.496	0.149	0.060	99.239	3.430	17.410	99.583
MA-187-18	0.142	0.335	0.000	14.449	53.629	0.138	13.795	0.140	16.221	0.202	0.048	99.099	3.206	13.336	99.420
MA-189-23	0.155	0.288	0.000	9.295	51.144	0.112	0.546	1.587	33.406	0.069	2.070	98.672	4.414	29.434	99.114
MA-189-24	0.089	0.233	0.032	13.262	55.688	0.167	12.566	0.204	16.864	0.086	0.126	99.317	2.101	14.974	99.527
MA-191-02	0.161	0.352	0.000	11.700	55.394	0.131	12.408	0.181	18.433	0.175	0.037	98.972	3.794	15.019	99.352
MA-191-03	0.069	0.383	0.041	7.282	55.424	0.067	4.653	0.781	29.391	0.062	0.376	98.529	4.757	25.111	99.006
MA-191-04	0.157	0.256	0.074	12.407	54.963	0.128	11.624	0.225	19.271	0.135	0.067	99.307	3.223	16.371	99.630
MA-191-05	0.083	0.750	0.000	12.700	52.557	0.247	11.559	0.256	20.920	0.115	0.074	99.261	4.395	16.966	99.701
MA-191-06	0.073	0.718	0.012	13.480	51.248	0.174	11.064	0.197	20.934	0.093	0.088	98.081	3.945	17.384	98.476
MA-191-07	0.112	0.353	0.042	14.462	50.621	0.189	11.063	0.179	21.621	0.093	0.068	98.803	4.477	17.592	99.252
MA-191-08	0.089	0.681	0.032	13.143	50.252	0.202	6.642	0.370	26.632	0.110	0.246	98.399	3.034	23.902	98.703
MA-195-02	0.134	0.258	0.000	14.726	52.697	0.144	7.578	0.419	22.693	0.036	0.383	99.068	0.390	22.343	99.107
MA-195-04	0.063	1.071	0.018	10.406	50.090	0.315	7.346	0.323	28.701	0.104	0.121	98.558	6.175	23.144	99.177
MA-199-02	0.071	0.029	0.000	13.729	56.835	0.379	11.866	0.211	16.771	0.051	0.127	100.069	0.357	16.449	100.105
MA-199-04	0.162	0.327	0.000	11.228	51.938	0.115	5.724	0.678	28.094	0.058	0.257	98.581	4.081	24.422	98.990
MA-199-05	0.047	0.958	0.012	15.407	47.574	0.211	6.800	0.391	27.492	0.136	0.210	99.238	3.361	24.468	99.575
MA-199-06	0.103	0.834	0.032	7.857	51.542	0.157	8.194	0.509	29.171	0.064	0.105	98.568	9.115	20.969	99.481

Sample	SiO2	TiO2	Nb2O5	Al2O3	Cr2O3	V2O5	MgO	MnO	FeO*	NiO	ZnO	Total	Fe2O3	FeO	Total
Chromites															
Diamond Intergrowth & Inclusion															
MA-005-60	0.058	0.311	0.034	5.301	62.675	0.219	11.088	0.241	19.534	0.076	0.098	99.635	3.682	16.221	100.004
MA-023-08	0.132	0.502	0.016	6.707	60.980	0.086	13.140	0.164	17.347	0.172	0.061	99.308	4.529	13.272	99.761
MA-027-12	0.186	0.154	0.000	3.133	60.204	0.000	0.544	2.782	31.427	0.025	0.912	99.366	3.452	28.321	99.713
MA-267-05	0.217	0.154	0.000	9.338	58.841	0.019	15.636	0.148	15.312	0.120	0.040	99.825	6.102	9.822	100.436
MA-209-16	0.129	0.266	0.000	6.125	61.755	0.029	10.944	0.240	19.603	0.135	0.067	99.293	3.827	16.159	99.676
MA-211-11	0.132	0.083	0.000	5.996	62.039	0.107	7.152	0.850	22.448	0.050	0.097	98.954	1.392	21.196	99.093
Field Unique to Kimerlite and Lamproite															
MA-003-11	0.076	2.359	0.000	12.638	48.516	0.408	10.172	0.236	24.307	0.166	0.124	99.002	4.113	20.606	99.414
MA-005-32	0.081	3.034	0.000	10.726	42.367	0.453	8.006	0.303	33.521	0.113	0.089	98.693	10.221	24.324	99.717
MA-011-57	0.071	3.247	0.000	4.248	49.912	0.454	9.287	0.360	30.769	0.153	0.099	98.600	10.423	21.390	99.644
MA-039-15	0.037	3.386	0.000	11.163	40.914	0.417	8.263	0.364	34.030	0.205	0.112	98.890	11.027	24.108	99.996
MA-057-90	0.071	1.834	0.020	2.324	56.757	0.338	9.599	0.316	27.653	0.195	0.077	99.184	9.209	19.366	100.107
MA-079-30	0.063	1.474	0.036	3.281	58.299	0.238	9.027	0.300	25.617	0.122	0.120	98.577	6.546	19.727	99.233
MA-093-24	0.075	1.034	0.045	1.856	61.087	0.265	9.003	0.395	25.670	0.097	0.158	99.685	6.897	19.464	100.376
MA-099-19	0.065	2.646	0.002	13.343	44.724	0.400	9.580	0.286	27.701	0.202	0.105	99.054	6.507	21.846	99.706
MA-099-23	0.035	3.582	0.000	9.905	43.893	0.386	7.728	0.376	32.396	0.206	0.124	98.631	8.547	24.705	99.487
MA-187-19	0.090	4.050	0.000	10.282	47.259	0.220	11.334	0.187	25.194	0.194	0.124	98.934	6.065	19.737	99.542
MA-211-07	0.054	2.481	0.000	11.884	47.682	0.394	6.946	0.234	26.476	0.170	0.146	96.467	2.067	24.616	96.674
MA-211-12	0.045	3.654	0.002	2.051	47.320	0.704	7.424	0.385	36.218	0.245	0.137	98.185	13.154	24.382	99.503
MA-211-22	0.050	4.636	0.002	9.655	41.454	0.615	8.222	0.571	33.250	0.236	0.126	98.817	9.082	25.078	99.727
MA-211-26	0.083	3.103	0.000	12.142	46.203	0.425	6.419	0.266	27.273	0.220	0.165	96.299	1.473	25.947	96.447
MA-409-04	0.053	1.463	0.000	6.114	55.488	0.264	8.994	0.362	26.239	0.119	0.169	99.265	6.575	20.323	99.924
MA-423-19	0.051	2.292	0.000	13.181	46.112	0.436	10.778	0.252	25.769	0.156	0.107	99.134	6.624	19.808	99.798
MA-431-57	0.028	2.510	0.000	12.786	45.195	0.356	9.202	0.336	28.908	0.205	0.130	99.656	7.424	22.228	100.400
MA-431-94	0.114	2.740	0.039	8.619	53.976	0.430	12.658	0.209	20.621	0.175	0.068	99.649	4.126	16.909	100.062
MA-467-03	0.037	2.435	0.000	11.853	44.174	0.388	9.046	0.323	31.042	0.184	0.138	99.620	9.643	22.366	100.586
MA-507-01	0.067	2.331	0.037	9.329	47.154	0.317	5.987	0.611	33.162	0.173	0.211	99.379	7.884	26.068	100.169
Non Kimberlitic / Lamproitic Field															
MA-003-08	0.200	0.797	0.012	34.620	29.405	0.149	16.979	0.111	16.614	0.238	0.066	99.192	4.908	12.197	99.683
MA-007-23	0.182	0.994	0.005	35.087	28.581	0.118	17.052	0.139	16.641	0.261	0.062	99.122	4.947	12.190	99.618
MA-079-07	0.092	2.519	0.024	28.912	31.603	0.176	16.143	0.171	19.246	0.224	0.067	99.177	5.826	14.004	99.761
MA-089-02	0.130	1.996	0.039	32.283	29.155	0.173	16.369	0.150	19.077	0.247	0.069	99.688	5.713	13.937	100.260
MA-093-40	0.136	1.407	0.000	32.137	29.004	0.165	15.525	0.166	20.727	0.217	0.060	99.544	6.780	14.626	100.223
MA-137-67	0.174	1.185	0.000	33.447	29.412	0.130	16.334	0.146	18.316	0.262	0.061	99.467	5.553	13.320	100.023

Sample	SiO2	TiO2	Nb2O5	Al2O3	Cr2O3	V2O5	MgO	MnO	FeO*	NiO	ZnO	Total	Fe2O3	FeO	Total
MA-137-90	0.181	0.603	0.000	40.294	24.091	0.114	17.596	0.123	16.231	0.274	0.066	99.573	4.752	11.955	100.049
MA-141-03	0.187	0.854	0.007	36.347	27.880	0.134	17.317	0.112	16.594	0.278	0.063	99.773	4.984	12.109	100.272
MA-143-09	0.123	1.573	0.005	35.365	24.678	0.189	15.981	0.168	21.201	0.214	0.072	99.569	7.315	14.619	100.302
MA-143-14	0.140	0.937	0.000	34.529	29.041	0.174	16.671	0.151	17.364	0.274	0.084	99.365	5.185	12.698	99.885
MA-143-21	0.110	1.681	0.029	29.829	28.591	0.176	14.023	0.212	24.620	0.160	0.103	99.534	8.671	16.818	100.403
MA-209-15	0.204	0.580	0.028	40.438	25.547	0.108	18.953	0.148	13.032	0.301	0.048	99.387	3.578	9.813	99.745
MA-211-04	0.197	0.539	0.020	39.669	26.476	0.117	18.741	0.112	13.502	0.300	0.050	99.723	3.756	10.122	100.099
MA-239-10	0.180	1.014	0.005	32.397	30.332	0.200	16.329	0.134	18.966	0.232	0.057	99.846	6.288	13.308	100.476
MA-411-07	0.192	0.797	0.003	34.994	29.686	0.188	17.643	0.128	15.639	0.267	0.046	99.583	4.736	11.377	100.058
MA-431-44	0.190	1.052	0.012	34.097	29.653	0.171	17.131	0.131	17.389	0.239	0.049	100.114	5.507	12.434	100.666
Overlap Field - possibly kimberlitic															
MA-001-02	0.122	0.392	0.061	8.130	52.390	0.077	0.561	2.441	33.757	0.055	1.004	98.990	4.706	29.523	99.461
MA-003-12	0.090	1.378	0.044	28.166	33.889	0.129	15.233	0.149	19.859	0.194	0.079	99.210	6.230	14.253	99.834
MA-003-13	0.103	0.581	0.028	12.200	52.535	0.292	9.942	0.314	23.437	0.067	0.105	99.604	4.481	19.405	100.053
MA-003-14	0.073	0.571	0.000	12.638	51.845	0.193	10.199	0.247	23.020	0.114	0.077	98.977	4.798	18.703	99.458
MA-005-30	0.114	0.282	0.035	11.901	52.273	0.144	6.663	0.421	27.215	0.062	0.415	99.525	4.151	23.480	99.941
MA-005-31	0.138	0.323	0.000	12.425	51.908	0.209	5.045	0.460	28.346	0.043	0.363	99.260	2.507	26.090	99.511
MA-005-34	0.067	1.187	0.000	13.100	49.740	0.284	7.085	0.366	26.969	0.120	0.211	99.130	3.293	24.006	99.459
MA-005-35	0.125	0.295	0.019	14.105	55.019	0.155	14.459	0.168	14.332	0.173	0.039	98.889	2.393	12.179	99.129
MA-005-36	0.127	0.293	0.027	7.364	58.276	0.079	6.614	0.370	26.060	0.117	0.092	99.419	3.394	23.006	99.759
MA-005-37	0.134	0.313	0.007	16.106	50.647	0.154	12.442	0.192	19.241	0.147	0.056	99.439	3.842	15.784	99.824
MA-005-46	0.117	0.352	0.007	11.431	55.607	0.132	12.945	0.169	17.996	0.184	0.028	98.968	4.302	14.125	99.399
MA-007-06	0.155	0.283	0.000	12.904	55.106	0.086	12.824	0.214	17.137	0.165	0.048	98.922	3.074	14.371	99.230
MA-007-07	0.061	0.846	0.039	10.447	53.966	0.253	9.449	0.232	23.442	0.084	0.122	98.941	3.996	19.847	99.341
MA-007-08	0.099	0.382	0.000	12.139	52.118	0.185	9.842	0.245	23.365	0.101	0.098	98.575	4.972	18.891	99.072
MA-007-09	0.067	0.520	0.000	12.360	53.114	0.264	10.839	0.225	21.707	0.113	0.102	99.312	4.303	17.835	99.742
MA-007-10	0.145	1.082	0.019	26.706	36.680	0.102	15.623	0.137	18.264	0.226	0.052	99.036	5.732	13.107	99.610
MA-007-11	0.105	0.638	0.037	13.544	52.277	0.308	12.185	0.210	19.571	0.081	0.096	99.052	3.768	16.181	99.430
MA-007-12	0.099	1.570	0.000	7.044	48.674	0.243	8.050	0.275	32.145	0.155	0.026	98.281	11.290	21.986	99.412
MA-011-15	0.134	0.167	0.011	9.994	51.137	0.024	0.427	2.032	33.161	0.015	1.626	98.728	4.081	29.488	99.137
MA-011-16	0.088	0.406	0.000	12.893	53.620	0.166	11.218	0.213	20.049	0.105	0.050	98.808	3.386	17.002	99.147
MA-011-17	0.136	0.337	0.000	13.669	52.496	0.163	10.639	0.229	21.154	0.142	0.097	99.062	3.511	17.995	99.414
MA-011-18	0.154	0.234	0.000	13.235	55.650	0.098	12.592	0.190	16.893	0.065	0.066	99.177	2.189	14.923	99.396
MA-011-19	0.174	2.064	0.036	18.725	43.577	0.117	14.586	0.183	19.216	0.209	0.048	98.935	5.426	14.334	99.479
MA-011-20	0.125	0.364	0.012	12.536	51.526	0.176	7.926	0.265	25.792	0.102	0.089	98.914	4.230	21.986	99.337
MA-011-22	0.073	1.304	0.091	13.592	47.124	0.234	6.846	0.417	29.049	0.126	0.172	99.028	5.003	24.547	99.529
MA-011-23	0.058	0.034	0.037	13.901	54.126	0.281	12.497	0.201	17.887	0.077	0.133	99.232	3.056	15.137	99.538
MA-011-24	0.071	1.204	0.063	13.809	48.877	0.293	10.723	0.237	23.997	0.166	0.110	99.550	5.559	18.995	100.107
MA-011-25	0.134	0.346	0.000	11.889	51.286	0.163	5.118	0.909	28.719	0.105	0.338	99.007	3.813	25.288	99.389

Sample	SiO2	TiO2	Nb2O5	Al2O3	Cr2O3	V2O5	MgO	MnO	FeO*	NiO	ZnO	Total	Fe2O3	FeO	Total
MA-011-26	0.193	0.244	0.067	10.101	57.384	0.031	13.716	0.183	16.808	0.196	0.042	98.966	4.673	12.604	99.433
MA-011-27	0.055	1.083	0.024	28.498	32.029	0.199	14.973	0.256	21.460	0.134	0.067	98.778	7.920	14.333	99.572
MA-013-01	0.110	1.587	0.002	22.966	37.636	0.122	13.724	0.214	21.917	0.180	0.086	98.545	6.968	15.647	99.242
MA-017-03	0.139	1.682	0.000	20.723	41.171	0.191	14.954	0.168	19.441	0.203	0.053	98.725	6.335	13.741	99.360
MA-017-04	0.170	0.325	0.000	12.441	53.154	0.160	10.074	0.247	22.212	0.125	0.074	98.982	3.908	18.695	99.374
MA-017-05	0.124	0.231	0.002	11.171	55.266	0.126	6.621	0.439	24.975	0.037	0.304	99.296	1.825	23.332	99.479
MA-017-08	0.119	0.304	0.000	13.874	53.422	0.149	7.834	0.362	22.660	0.061	0.163	98.948	0.680	22.048	99.016
MA-023-05	0.126	0.281	0.000	13.931	54.728	0.136	13.838	0.210	15.896	0.185	0.042	99.374	3.049	13.153	99.678
MA-023-06	0.027	0.731	0.000	15.429	49.991	0.207	10.340	0.277	22.485	0.118	0.130	99.734	3.679	19.175	100.104
MA-023-07	0.135	0.396	0.000	13.373	54.400	0.165	11.408	0.231	19.141	0.065	0.077	99.390	2.375	17.004	99.629
MA-023-09	0.041	0.808	0.000	12.121	51.598	0.182	9.864	0.252	24.054	0.113	0.126	99.159	5.277	19.306	99.688
MA-023-10	0.121	0.429	0.000	12.523	51.516	0.211	10.310	0.246	23.847	0.099	0.086	99.389	5.794	18.633	99.969
MA-023-39	0.062	0.391	0.000	12.755	55.577	0.236	12.278	0.223	17.599	0.077	0.138	99.336	2.325	15.507	99.569
MA-027-10	0.068	0.968	0.000	12.173	51.588	0.268	10.310	0.279	23.121	0.091	0.104	98.969	4.704	18.889	99.441
MA-027-11	0.111	0.316	0.023	14.063	54.163	0.176	12.639	0.198	17.954	0.149	0.072	99.864	2.970	15.281	100.162
MA-027-13	0.049	0.320	0.019	14.547	52.305	0.180	8.533	0.464	23.011	0.090	0.172	99.691	2.019	21.195	99.892
MA-027-14	0.021	0.020	0.000	9.221	58.991	0.203	9.878	0.353	20.664	0.032	0.218	99.601	2.830	18.118	99.885
MA-027-16	0.307	0.389	0.000	12.001	53.663	0.217	11.031	0.227	21.500	0.110	0.046	99.491	4.207	17.715	99.912
MA-027-17	0.030	0.128	0.000	14.072	52.755	0.162	11.371	0.267	20.444	0.078	0.156	99.463	4.140	16.719	99.878
MA-027-18	0.080	0.389	0.019	11.381	52.321	0.210	8.749	0.306	25.271	0.099	0.108	98.933	5.264	20.535	99.460
MA-027-19	0.103	0.446	0.005	15.616	54.759	0.148	14.602	0.138	13.341	0.129	0.076	99.363	0.991	12.449	99.462
MA-027-21	0.185	1.253	0.005	30.964	31.422	0.179	16.154	0.116	17.838	0.274	0.066	98.456	5.326	13.046	98.990
MA-027-23	0.120	0.340	0.042	14.180	53.053	0.131	12.046	0.273	18.946	0.165	0.055	99.350	3.324	15.955	99.684
MA-027-24	0.041	0.570	0.026	11.562	51.206	0.279	9.867	0.245	24.715	0.091	0.098	98.699	6.242	19.098	99.325
MA-027-25	0.149	0.291	0.037	13.737	51.936	0.131	9.428	0.234	23.350	0.110	0.076	99.480	3.719	20.004	99.852
MA-027-26	0.134	0.305	0.035	14.461	52.860	0.169	12.634	0.211	18.467	0.157	0.084	99.517	3.587	15.240	99.876
MA-027-27	0.141	0.276	0.000	12.844	52.669	0.171	9.910	0.258	22.472	0.129	0.079	98.949	3.952	18.916	99.345
MA-027-28	0.112	0.423	0.000	14.833	46.332	0.179	5.135	0.697	30.808	0.123	0.185	98.826	5.238	26.095	99.352
MA-027-30	0.148	0.273	0.051	13.437	54.852	0.101	14.007	0.183	15.668	0.182	0.060	98.962	3.279	12.718	99.291
MA-027-35	0.099	0.984	0.000	9.065	48.706	0.149	10.536	0.220	28.390	0.131	0.066	98.346	11.665	17.894	99.515
MA-027-37	0.153	0.289	0.000	12.986	53.748	0.143	10.445	0.238	21.082	0.118	0.044	99.246	3.150	18.248	99.562
MA-027-38	0.176	0.263	0.000	13.934	54.996	0.097	13.726	0.153	15.701	0.150	0.052	99.248	2.615	13.348	99.510
MA-027-47	0.145	0.266	0.000	12.136	51.893	0.121	4.731	1.187	28.249	0.141	0.426	99.295	3.077	25.480	99.603
MA-029-06	0.122	0.397	0.000	15.218	50.931	0.164	10.923	0.228	20.983	0.139	0.055	99.160	3.411	17.914	99.502
MA-029-07	0.158	0.305	0.021	13.400	53.708	0.158	11.389	0.183	19.883	0.144	0.047	99.396	3.194	17.009	99.716
MA-029-08	0.070	0.932	0.000	11.077	49.084	0.291	6.705	0.302	29.975	0.153	0.151	98.740	6.561	24.072	99.397
MA-029-09	0.160	0.284	0.065	12.905	55.985	0.131	14.365	0.149	14.925	0.180	0.043	99.192	2.927	12.291	99.485
MA-029-10	0.058	0.851	0.000	12.400	50.989	0.179	9.851	0.245	23.715	0.120	0.112	98.519	4.985	19.229	99.019
MA-029-11	0.553	0.282	0.000	9.515	59.413	0.105	14.019	0.216	14.475	0.122	0.024	98.724	2.154	12.537	98.940
MA-029-12	0.096	0.651	0.000	13.836	47.911	0.273	7.109	0.392	28.955	0.105	0.181	99.509	5.727	23.802	100.083
MA-029-13	0.079	0.225	0.002	18.000	47.168	0.173	12.269	0.201	20.591	0.153	0.082	98.942	5.054	16.043	99.449

Sample	SiO2	TiO2	Nb2O5	Al2O3	Cr2O3	V2O5	MgO	MnO	FeO*	NiO	ZnO	Total	Fe2O3	FeO	Total
MA-029-14	0.136	0.292	0.030	14.710	53.695	0.138	13.728	0.222	15.903	0.144	0.069	99.067	2.783	13.399	99.346
MA-031-05	0.722	0.182	0.057	4.017	56.763	0.036	0.894	2.906	25.220	0.029	7.775	98.601	3.503	22.068	98.952
MA-031-06	0.067	0.384	0.023	12.246	54.184	0.198	11.227	0.225	20.061	0.112	0.084	98.810	3.552	16.864	99.167
MA-031-08	0.147	0.340	0.000	12.707	57.156	0.158	13.204	0.173	15.037	0.116	0.088	99.127	1.156	13.996	99.242
MA-031-09	0.159	0.317	0.000	12.845	55.662	0.177	12.163	0.246	17.344	0.062	0.074	99.049	1.920	15.616	99.241
MA-031-11	0.080	0.324	0.000	13.583	54.302	0.133	7.975	0.311	22.488	0.074	0.151	99.421	0.621	21.929	99.483
MA-031-13	0.100	0.358	0.000	13.534	52.171	0.144	4.830	0.446	26.975	0.054	0.410	99.022	0.718	26.329	99.094
MA-031-15	0.116	0.270	0.000	12.055	53.761	0.170	7.500	0.336	24.915	0.036	0.264	99.423	2.778	22.416	99.701
MA-031-16	0.057	0.433	0.025	12.572	52.177	0.162	6.230	0.475	26.525	0.041	0.242	98.938	2.541	24.239	99.194
MA-031-17	0.139	0.326	0.018	11.230	51.546	0.125	4.708	0.710	30.109	0.052	0.080	99.043	4.269	26.267	99.471
MA-031-26	0.104	0.424	0.002	25.912	36.016	0.232	12.793	0.197	23.029	0.150	0.074	98.933	6.885	16.834	99.623
MA-033-02	0.096	0.936	0.005	11.613	48.798	0.294	5.406	0.493	30.419	0.087	0.471	98.618	5.236	25.708	99.143
MA-033-03	0.094	0.297	0.000	11.002	51.302	0.152	5.611	0.462	29.352	0.072	0.262	98.606	5.141	24.726	99.121
MA-033-04	0.143	0.428	0.000	12.547	53.826	0.189	12.939	0.177	18.488	0.172	0.063	98.972	4.466	14.470	99.419
MA-033-05	0.055	0.506	0.026	14.550	47.998	0.263	7.291	0.433	27.793	0.062	0.161	99.138	4.940	23.348	99.633
MA-033-06	0.134	0.267	0.028	12.368	55.321	0.148	12.175	0.192	18.315	0.122	0.070	99.140	3.154	15.477	99.456
MA-033-07	0.154	0.271	0.040	13.467	54.212	0.140	13.642	0.134	16.602	0.188	0.051	98.901	3.586	13.375	99.260
MA-033-08	0.529	0.340	0.009	13.879	50.020	0.257	10.843	0.241	22.430	0.058	0.106	98.712	4.533	18.351	99.166
MA-033-09	0.055	0.425	0.035	16.048	47.441	0.261	10.200	0.246	24.329	0.140	0.091	99.271	5.596	19.294	99.832
MA-033-10	0.151	0.284	0.000	13.295	55.622	0.114	14.262	0.138	14.989	0.192	0.017	99.064	2.887	12.391	99.353
MA-033-32	0.152	0.288	0.009	14.089	52.400	0.136	12.018	0.213	19.323	0.138	0.060	98.826	3.830	15.877	99.210
MA-035-05	0.104	0.429	0.000	14.617	49.924	0.249	11.168	0.245	21.799	0.152	0.112	98.799	4.880	17.408	99.288
MA-035-06	0.085	0.308	0.000	12.751	52.522	0.219	11.173	0.228	21.521	0.107	0.070	98.985	4.929	17.086	99.478
MA-037-02	0.087	0.383	0.000	13.533	51.009	0.247	11.112	0.239	22.111	0.068	0.092	98.881	5.241	17.395	99.406
MA-037-03	0.080	0.701	0.000	14.184	49.693	0.313	11.525	0.201	22.157	0.119	0.092	99.065	5.403	17.295	99.606
MA-039-05	0.076	0.441	0.000	12.644	53.249	0.169	10.910	0.237	21.405	0.093	0.077	99.301	4.240	17.590	99.726
MA-039-06	0.057	0.240	0.000	6.933	54.792	0.044	0.598	3.358	30.937	0.004	1.900	98.863	4.158	27.195	99.280
MA-039-07	0.088	0.187	0.028	17.015	47.893	0.212	12.275	0.232	20.655	0.166	0.094	98.845	5.329	15.860	99.379
MA-039-08	0.178	0.244	0.000	11.849	54.711	0.110	10.386	0.234	20.949	0.119	0.052	98.832	3.316	17.965	99.164
MA-039-09	0.115	0.280	0.021	12.959	53.317	0.181	10.717	0.198	21.092	0.122	0.060	99.063	3.637	17.820	99.426
MA-039-10	0.055	0.606	0.000	12.869	51.404	0.261	10.477	0.226	22.644	0.138	0.084	98.764	4.772	18.350	99.242
MA-039-11	0.071	0.680	0.058	13.263	51.153	0.203	10.679	0.225	22.801	0.132	0.084	99.349	4.943	18.353	99.844
MA-039-12	0.081	0.622	0.051	12.583	49.286	0.269	8.837	0.258	26.415	0.074	0.092	98.568	6.120	20.908	99.181
MA-039-13	0.081	0.528	0.000	13.082	49.279	0.243	10.296	0.243	24.874	0.133	0.087	98.846	6.924	18.644	99.540
MA-043-09	0.100	0.354	0.019	13.027	56.260	0.183	11.948	0.240	17.109	0.086	0.094	99.420	1.200	16.030	99.540
MA-043-11	0.118	0.325	0.000	12.930	54.591	0.200	11.483	0.217	18.934	0.122	0.102	99.022	2.585	16.608	99.281
MA-043-12	0.151	0.252	0.056	14.138	54.446	0.131	12.424	0.199	17.370	0.153	0.068	99.388	2.177	15.411	99.606
MA-043-16	0.065	0.847	0.000	14.061	49.258	0.210	7.086	0.445	27.109	0.113	0.135	99.329	3.678	23.800	99.697
MA-043-17	0.095	0.498	0.021	11.743	52.752	0.194	10.185	0.246	22.879	0.112	0.060	98.786	4.838	18.526	99.270
MA-043-18	0.147	0.300	0.000	13.337	52.840	0.151	10.567	0.243	21.183	0.118	0.071	98.957	3.521	18.015	99.310
MA-043-19	0.046	0.920	0.000	12.644	50.270	0.352	11.017	0.241	23.314	0.105	0.097	99.006	5.903	18.002	99.597

Sample	SiO2	TiO2	Nb2O5	Al2O3	Cr2O3	V2O5	MgO	MnO	FeO*	NiO	ZnO	Total	Fe2O3	FeO	Total
MA-043-20	0.133	0.383	0.002	13.806	48.476	0.158	5.820	0.504	29.293	0.120	0.236	98.931	4.748	25.021	99.407
MA-043-21	0.095	1.907	0.019	12.815	47.153	0.404	10.767	0.309	25.046	0.117	0.090	98.721	6.379	19.307	99.361
MA-043-22	0.075	1.662	0.056	13.897	46.889	0.349	9.880	0.283	25.855	0.138	0.093	99.177	5.754	20.677	99.754
MA-043-23	0.155	0.294	0.000	12.369	53.522	0.150	9.353	0.309	22.590	0.128	0.051	98.921	3.267	19.650	99.248
MA-049-01	0.117	0.371	0.009	11.455	52.466	0.192	9.420	0.279	24.507	0.076	0.108	99.000	5.467	19.588	99.548
MA-053-01	0.111	1.157	0.000	30.270	34.957	0.144	17.341	0.115	14.444	0.234	0.066	98.839	3.811	11.015	99.221
MA-057-34	0.139	0.325	0.042	11.805	51.226	0.165	7.291	0.326	27.438	0.092	0.134	98.983	5.174	22.783	99.501
MA-057-36	0.110	0.357	0.000	12.660	53.795	0.204	11.517	0.246	20.224	0.090	0.082	99.285	3.955	16.666	99.681
MA-057-37	0.100	0.443	0.000	13.301	50.791	0.261	9.742	0.476	23.389	0.094	0.077	98.674	4.632	19.221	99.138
MA-057-38	0.024	1.054	0.000	15.027	49.313	0.253	10.772	0.222	21.575	0.119	0.129	98.488	3.462	18.460	98.835
MA-057-39	0.132	0.306	0.037	12.765	52.437	0.116	9.573	0.298	22.906	0.121	0.113	98.804	4.035	19.276	99.208
MA-057-73	0.126	0.397	0.064	10.201	52.180	0.119	7.421	0.295	27.608	0.087	0.113	98.611	5.925	22.277	99.205
MA-059-03	0.084	0.311	0.000	9.310	56.858	0.291	12.264	0.227	19.344	0.126	0.065	98.880	4.895	14.939	99.370
MA-059-04	0.180	0.321	0.026	13.475	52.865	0.134	11.146	0.229	20.479	0.149	0.072	99.076	3.607	17.233	99.437
MA-059-09	0.117	0.812	0.000	12.853	47.525	0.282	4.958	0.207	31.284	0.123	0.301	98.462	4.943	26.836	98.957
MA-063-08	0.192	0.208	0.032	9.499	55.842	0.079	10.306	0.569	21.477	0.134	0.055	98.393	4.739	17.213	98.868
MA-063-09	0.142	0.322	0.030	12.270	54.292	0.096	12.656	0.165	18.522	0.147	0.067	98.709	4.366	14.593	99.146
MA-065-08	0.102	0.422	0.039	12.443	52.320	0.201	10.835	0.252	22.188	0.093	0.089	98.984	5.029	17.662	99.488
MA-065-10	0.172	0.287	0.000	13.515	54.137	0.143	13.787	0.145	15.920	0.170	0.031	98.307	3.253	12.993	98.633
MA-069-02	0.199	0.272	0.016	11.501	51.289	0.145	2.964	1.533	30.420	0.181	0.471	98.991	3.038	27.686	99.295
MA-069-04	0.104	0.244	0.028	15.314	51.653	0.111	8.065	0.348	22.632	0.043	0.480	99.022	1.161	21.587	99.138
MA-069-05	0.165	0.212	0.000	10.127	49.326	0.081	0.633	1.415	33.746	0.015	2.832	98.552	5.461	28.832	99.099
MA-069-07	0.075	0.467	0.025	12.622	49.179	0.255	8.692	0.279	26.730	0.090	0.102	98.516	6.495	20.886	99.167
MA-069-08	0.051	1.038	0.067	12.528	46.944	0.363	5.430	0.414	31.232	0.091	0.441	98.599	5.681	26.120	99.168
MA-069-09	0.123	0.339	0.000	12.188	52.326	0.183	10.749	0.213	22.241	0.110	0.111	98.583	5.248	17.518	99.109
MA-069-11	0.072	0.952	0.000	11.798	44.484	0.406	3.768	0.844	35.694	0.038	0.682	98.738	8.561	27.991	99.596
MA-075-01	0.746	0.736	0.042	12.685	50.911	0.261	11.108	0.219	21.866	0.107	0.064	98.745	3.801	18.446	99.126
MA-079-02	0.085	0.674	0.030	14.389	49.348	0.194	7.060	0.464	26.296	0.047	0.204	98.791	3.036	23.564	99.095
MA-079-03	0.083	3.477	0.037	13.762	38.261	0.372	9.335	0.312	32.804	0.208	0.108	98.759	10.903	22.993	99.851
MA-079-04	0.139	0.324	0.084	14.746	54.109	0.176	14.507	0.166	14.810	0.163	0.064	99.288	2.604	12.467	99.549
MA-079-05	0.084	0.869	0.000	14.033	46.410	0.353	10.603	0.264	26.015	0.110	0.082	98.823	7.994	18.822	99.624
MA-079-06	0.135	0.276	0.000	11.785	54.170	0.114	10.099	0.230	21.777	0.125	0.062	98.773	3.807	18.352	99.154
MA-079-08	0.318	1.755	0.044	13.301	46.545	0.354	9.889	0.273	26.435	0.125	0.143	99.182	6.096	20.950	99.793
MA-079-14	0.126	0.506	0.000	9.968	49.362	0.152	2.508	0.580	34.539	0.086	0.279	98.106	5.881	29.248	98.695
MA-087-02	0.069	0.293	0.000	9.227	56.108	0.220	10.988	0.292	22.110	0.104	0.125	99.536	5.834	16.860	100.121
MA-087-03	0.064	1.451	0.089	7.358	43.420	0.243	6.486	0.419	38.466	0.123	0.148	98.267	15.845	24.208	99.855
MA-093-23	0.109	0.283	0.021	13.730	53.535	0.162	12.560	0.199	18.469	0.151	0.045	99.264	3.705	15.135	99.635
MA-093-26	0.042	0.228	0.000	13.037	54.468	0.188	9.886	0.303	21.234	0.068	0.118	99.572	2.493	18.991	99.822
MA-093-30	0.147	0.253	0.030	12.465	55.271	0.111	11.172	0.211	19.885	0.130	0.053	99.728	3.038	17.152	100.032
MA-093-31	0.071	0.533	0.000	13.714	49.689	0.209	7.596	0.347	27.367	0.124	0.094	99.744	4.890	22.967	100.234
MA-093-32	0.182	0.244	0.035	12.576	57.920	0.139	15.315	0.104	13.415	0.199	0.008	100.137	2.553	11.117	100.393

Sample	SiO2	TiO2	Nb2O5	Al2O3	Cr2O3	V2O5	MgO	MnO	FeO*	NiO	ZnO	Total	Fe2O3	FeO	Total
MA-093-33	0.118	0.486	0.009	15.521	53.362	0.205	11.894	0.229	18.226	0.094	0.098	100.242	1.430	16.940	100.385
MA-093-34	0.059	0.370	0.000	15.059	51.723	0.245	11.701	0.255	19.876	0.090	0.159	99.537	3.459	16.764	99.884
MA-093-35	0.030	2.078	0.032	12.801	48.310	0.319	10.295	0.258	25.147	0.167	0.118	99.555	5.491	20.206	100.105
MA-093-36	0.142	0.370	0.000	14.285	51.280	0.213	10.627	0.247	22.543	0.059	0.067	99.833	4.406	18.578	100.274
MA-093-37	0.166	0.291	0.000	13.771	55.414	0.157	14.740	0.133	14.634	0.194	0.035	99.535	2.965	11.966	99.832
MA-093-38	0.126	0.333	0.012	14.046	51.441	0.154	7.996	0.217	25.442	0.128	0.081	99.976	3.366	22.413	100.313
MA-093-39	0.166	0.235	0.000	13.109	56.356	0.124	13.689	0.159	15.811	0.168	0.058	99.875	2.623	13.451	100.138
MA-093-41	0.150	0.316	0.000	11.837	52.797	0.106	5.187	1.358	27.801	0.115	0.237	99.904	3.129	24.986	100.217
MA-093-42	0.060	0.724	0.028	14.406	53.167	0.264	7.536	0.143	19.582	0.133	0.101	96.144	0.000	19.582	96.144
MA-093-43	0.085	0.316	0.000	13.136	51.553	0.132	6.326	0.466	27.387	0.047	0.236	99.684	3.426	24.304	100.027
MA-093-44	0.101	0.301	0.000	13.275	51.784	0.148	6.369	0.354	27.473	0.022	0.144	99.971	3.190	24.603	100.291
MA-093-45	0.201	0.368	0.000	36.370	29.700	0.120	18.006	0.152	14.220	0.267	0.049	99.453	4.160	10.477	99.870
MA-093-46	0.165	0.289	0.009	14.027	54.264	0.104	13.378	0.177	16.651	0.145	0.067	99.276	3.049	13.907	99.582
MA-093-47	0.090	0.398	0.000	12.434	52.766	0.215	9.142	0.207	23.830	0.134	0.093	99.309	3.937	20.288	99.703
MA-093-48	0.053	0.635	0.000	15.387	49.551	0.213	11.947	0.222	20.935	0.141	0.082	99.166	4.842	16.578	99.651
MA-093-49	0.067	0.715	0.021	13.220	52.012	0.308	11.783	0.227	21.008	0.119	0.100	99.580	4.593	16.875	100.040
MA-093-50	0.058	0.988	0.000	10.225	52.293	0.279	8.499	0.288	26.375	0.123	0.105	99.233	5.493	21.433	99.783
MA-093-51	0.073	0.925	0.025	12.896	50.634	0.284	10.942	0.245	23.241	0.108	0.112	99.485	5.556	18.242	100.042
MA-093-52	0.185	0.245	0.000	13.127	56.864	0.122	15.228	0.099	13.452	0.205	0.027	99.554	2.638	11.078	99.818
MA-093-53	0.027	0.169	0.000	15.968	54.498	0.122	14.251	0.198	13.928	0.123	0.012	99.296	1.433	12.638	99.440
MA-093-54	0.108	0.376	0.060	11.433	51.203	0.234	7.936	0.301	27.290	0.065	0.163	99.169	5.919	21.964	99.762
MA-093-55	0.127	0.339	0.000	14.078	51.878	0.220	10.310	0.212	21.636	0.108	0.060	98.968	3.272	18.692	99.296
MA-093-57	0.134	0.286	0.012	13.479	55.244	0.142	13.320	0.175	16.131	0.169	0.048	99.140	2.511	13.872	99.392
MA-093-58	0.076	0.572	0.000	10.874	51.298	0.148	8.090	0.758	27.105	0.145	0.102	99.168	6.660	21.112	99.835
MA-093-59	0.142	0.256	0.000	13.281	56.102	0.134	14.273	0.143	15.102	0.199	0.039	99.671	2.860	12.529	99.958
MA-093-60	0.203	0.702	0.000	33.659	31.749	0.119	17.265	0.140	15.407	0.276	0.041	99.561	4.305	11.534	99.992
MA-093-62	0.179	0.303	0.005	14.496	54.231	0.155	14.075	0.161	16.047	0.187	0.025	99.864	3.137	13.224	100.178
MA-093-63	0.169	0.252	0.019	13.636	55.501	0.138	14.209	0.142	14.820	0.193	0.033	99.112	2.505	12.566	99.363
MA-093-64	0.056	0.618	0.018	12.600	49.002	0.213	8.977	0.331	27.245	0.113	0.130	99.303	7.329	20.651	100.037
MA-093-67	0.178	0.241	0.065	12.836	56.169	0.076	13.397	0.172	15.998	0.181	0.037	99.350	2.568	13.688	99.607
MA-093-72	0.121	0.342	0.002	13.287	54.090	0.182	12.596	0.179	18.267	0.136	0.052	99.254	3.504	15.114	99.605
MA-097-17	0.176	1.112	0.026	22.644	39.475	0.109	12.946	0.182	22.602	0.134	0.076	99.482	6.419	16.827	100.125
MA-097-18	0.061	1.460	0.007	12.198	46.930	0.339	9.125	0.285	28.171	0.127	0.107	98.810	7.732	21.213	99.585
MA-097-19	0.135	0.244	0.037	13.405	56.000	0.139	14.775	0.122	13.844	0.182	0.017	98.900	2.486	11.607	99.149
MA-097-20	0.123	0.345	0.023	14.089	52.868	0.189	12.258	0.174	19.080	0.149	0.044	99.342	3.618	15.824	99.705
MA-097-21	0.059	0.828	0.030	16.032	50.381	0.205	10.764	0.253	20.498	0.125	0.153	99.328	2.093	18.614	99.538
MA-097-22	0.143	0.244	0.000	12.711	57.210	0.124	15.885	0.092	12.115	0.208	0.028	98.760	2.680	9.703	99.029
MA-097-23	0.082	0.590	0.000	6.365	56.544	0.127	10.697	0.240	24.060	0.147	0.069	98.921	7.963	16.895	99.719
MA-097-25	0.117	1.706	0.034	25.457	36.451	0.177	14.560	0.221	20.663	0.176	0.072	99.634	5.922	15.334	100.227
MA-097-27	0.189	1.156	0.029	28.077	33.992	0.128	15.501	0.147	19.409	0.224	0.065	98.917	6.415	13.637	99.560
MA-099-15	0.050	1.415	0.016	12.845	44.634	0.421	8.929	0.309	29.945	0.075	0.101	98.740	9.130	21.730	99.655

Sample	SiO2	TiO2	Nb2O5	Al2O3	Cr2O3	V2O5	MgO	MnO	FeO*	NiO	ZnO	Total	Fe2O3	FeO	Total
MA-199-08	0.220	0.294	0.000	14.558	54.937	0.127	15.659	0.135	12.991	0.237	0.041	99.199	2.715	10.548	99.471
MA-199-14	0.082	0.482	0.009	12.989	50.166	0.299	3.790	0.435	30.244	0.085	0.796	99.377	2.557	27.943	99.633
MA-205-03	0.143	0.447	0.032	9.911	57.109	0.139	12.392	0.206	18.792	0.189	0.051	99.411	4.254	14.964	99.837
MA-205-04	0.131	0.461	0.000	9.884	56.856	0.101	11.477	0.268	19.919	0.181	0.036	99.314	4.140	16.194	99.729
MA-205-05	0.105	1.114	0.025	31.620	32.846	0.182	17.193	0.126	15.884	0.252	0.034	99.381	4.672	11.680	99.849
MA-205-06	0.157	0.421	0.016	9.514	57.198	0.081	10.909	0.210	20.378	0.145	0.104	99.133	3.805	16.954	99.514
MA-209-17	0.089	0.399	0.032	13.029	52.055	0.250	10.748	0.231	22.325	0.110	0.074	99.342	4.753	18.049	99.818
MA-209-18	0.077	0.018	0.000	14.357	56.782	0.255	13.361	0.242	14.077	0.061	0.122	99.352	0.311	13.797	99.383
MA-211-02	0.066	0.810	0.014	14.982	50.616	0.160	11.679	0.266	20.453	0.133	0.047	99.226	3.806	17.028	99.607
MA-211-03	0.062	1.553	0.000	12.018	50.589	0.383	10.328	0.267	23.982	0.129	0.099	99.410	4.806	19.657	99.892
MA-211-05	0.063	0.235	0.000	17.517	47.524	0.224	11.526	0.219	21.692	0.138	0.092	99.230	4.939	17.248	99.725
MA-211-06	0.071	0.513	0.000	13.516	54.421	0.423	11.968	0.241	17.883	0.076	0.172	99.284	1.607	16.437	99.445
MA-211-08	0.083	0.573	0.037	13.256	47.000	0.196	8.718	0.253	28.223	0.071	0.100	98.510	7.982	21.041	99.310
MA-211-09	0.115	0.369	0.000	12.587	52.026	0.206	9.568	0.236	23.496	0.094	0.050	98.747	4.409	19.529	99.189
MA-211-13	0.056	0.533	0.014	11.282	51.041	0.276	8.800	0.291	26.047	0.101	0.105	98.546	6.116	20.543	99.159
MA-211-14	0.014	0.195	0.027	30.055	37.853	0.140	13.966	0.252	16.717	0.105	0.109	99.433	1.600	15.277	99.593
MA-211-15	0.139	0.419	0.063	13.432	53.391	0.197	13.623	0.190	17.869	0.175	0.042	99.540	4.513	13.808	99.992
MA-211-16	0.135	0.385	0.023	15.078	48.623	0.201	8.668	0.192	25.271	0.129	0.083	98.788	4.361	21.347	99.225
MA-211-17	0.113	0.462	0.000	15.427	50.039	0.234	10.905	0.281	21.676	0.141	0.127	99.405	3.978	18.096	99.804
MA-211-18	0.090	0.354	0.000	14.067	54.519	0.194	11.967	0.208	17.516	0.102	0.084	99.101	1.595	16.080	99.261
MA-211-20	0.103	0.507	0.037	11.703	50.586	0.249	7.055	0.343	27.931	0.092	0.144	98.750	5.180	23.270	99.269
MA-211-21	0.057	0.372	0.057	12.140	51.972	0.212	6.736	0.445	25.943	0.073	0.427	98.434	3.130	23.127	98.748
MA-211-23	0.102	0.386	0.000	14.381	49.536	0.191	9.921	0.534	23.571	0.050	0.165	98.837	5.164	18.924	99.354
MA-211-24	0.111	1.719	0.000	19.450	41.789	0.110	9.830	0.435	25.801	0.099	0.112	99.456	5.062	21.247	99.963
MA-211-25	0.072	0.544	0.012	13.815	49.610	0.243	10.033	0.277	24.532	0.085	0.075	99.298	5.786	19.326	99.878
MA-211-27	0.132	0.331	0.014	13.492	53.101	0.190	12.039	0.176	19.431	0.119	0.054	99.079	3.819	15.994	99.462
MA-211-29	0.065	0.430	0.039	11.840	51.668	0.172	8.427	0.253	26.041	0.098	0.086	99.119	5.365	21.214	99.657
MA-211-30	0.103	1.876	0.007	11.532	49.731	0.353	10.719	0.236	24.571	0.148	0.087	99.363	5.844	19.312	99.949
MA-215-03	0.193	0.251	0.028	12.974	54.403	0.132	11.262	0.236	19.929	0.134	0.064	99.606	3.137	17.106	99.920
MA-225-12	0.207	1.099	0.000	28.257	36.219	0.131	16.501	0.129	16.714	0.240	0.044	99.541	4.927	12.280	100.035
MA-225-13	0.075	0.636	0.002	12.601	50.749	0.226	9.635	0.230	24.684	0.096	0.081	99.015	5.506	19.730	99.567
MA-225-14	0.204	1.180	0.000	28.727	35.511	0.144	16.585	0.143	16.712	0.214	0.053	99.473	4.908	12.296	99.965
MA-225-15	0.202	1.022	0.000	31.450	33.327	0.152	17.284	0.126	15.483	0.262	0.065	99.373	4.490	11.443	99.823
MA-225-16	0.114	0.272	0.035	13.472	55.640	0.103	14.225	0.136	14.970	0.196	0.035	99.198	2.793	12.456	99.478
MA-225-17	0.122	0.257	0.000	12.919	54.687	0.164	11.411	0.291	19.518	0.170	0.065	99.604	3.118	16.713	99.916
MA-225-19	0.154	0.317	0.049	12.539	54.082	0.106	11.180	0.224	20.561	0.136	0.074	99.422	3.841	17.105	99.807
MA-229-12	0.148	1.268	0.000	31.862	31.799	0.146	16.644	0.141	17.103	0.221	0.066	99.398	4.928	12.669	99.892
MA-229-13	0.077	0.372	0.000	17.233	46.831	0.216	11.943	0.257	21.865	0.174	0.087	99.055	5.869	16.584	99.643
MA-229-14	0.080	0.695	0.032	12.628	56.258	0.185	12.613	0.209	16.172	0.066	0.127	99.065	1.135	15.151	99.179
MA-233-07	0.053	0.389	0.000	14.908	52.795	0.205	11.614	0.270	19.535	0.126	0.061	99.956	2.835	16.984	100.240
MA-233-08	0.051	1.046	0.032	13.731	46.132	0.329	5.594	0.366	31.578	0.118	0.261	99.238	5.784	26.374	99.817

Sample	SiO2	TiO2	Nb2O5	Al2O3	Cr2O3	V2O5	MgO	MnO	FeO*	NiO	ZnO	Total	Fe2O3	FeO	Total
MA-233-09	0.044	0.568	0.005	16.014	51.139	0.177	11.201	0.329	20.419	0.124	0.056	100.076	2.814	17.887	100.358
MA-233-10	0.098	1.133	0.042	14.521	47.043	0.259	7.626	0.394	28.502	0.142	0.127	99.887	5.336	23.700	100.422
MA-233-11	0.084	1.755	0.023	12.868	45.995	0.424	9.322	0.278	28.813	0.137	0.091	99.790	7.807	21.789	100.572
MA-233-12	0.044	0.777	0.002	12.431	50.053	0.312	10.264	0.170	25.568	0.074	0.071	99.766	6.947	19.317	100.462
MA-239-05	0.122	0.369	0.000	13.986	52.168	0.176	11.927	0.206	20.564	0.162	0.069	99.749	4.658	16.373	100.216
MA-239-06	0.137	0.120	0.014	16.490	53.989	0.148	14.996	0.169	14.105	0.148	0.049	100.365	2.271	12.061	100.593
MA-239-08	0.152	0.301	0.000	13.806	54.419	0.125	12.978	0.188	18.245	0.159	0.052	100.425	3.748	14.872	100.801
MA-239-09	0.129	0.350	0.000	13.932	51.412	0.173	9.298	0.508	23.923	0.149	0.119	99.993	4.238	20.110	100.418
MA-239-11	0.090	0.273	0.072	14.956	52.166	0.114	7.491	0.392	24.049	0.047	0.375	100.025	1.346	22.838	100.160
MA-239-12	0.157	0.323	0.002	12.540	53.158	0.143	9.330	0.238	24.164	0.112	0.074	100.241	4.361	20.240	100.678
MA-239-13	0.148	0.306	0.000	14.025	52.906	0.175	10.976	0.231	21.687	0.113	0.058	100.625	3.972	18.113	101.023
MA-241-01	0.063	0.179	0.000	13.689	49.937	0.130	5.462	0.506	29.012	0.034	0.764	99.776	4.358	25.090	100.213
MA-243-02	0.043	0.980	0.000	12.638	48.886	0.307	9.546	0.282	26.943	0.152	0.102	99.879	7.223	20.444	100.603
MA-243-04	0.051	1.609	0.016	13.516	46.450	0.330	10.045	0.268	27.037	0.153	0.085	99.560	7.403	20.376	100.302
MA-243-05	0.093	0.441	0.000	13.280	54.157	0.253	11.319	0.204	19.877	0.105	0.119	99.848	2.807	17.351	100.129
MA-245-08	0.133	0.397	0.023	15.756	51.478	0.246	13.988	0.161	17.495	0.167	0.033	99.877	4.136	13.773	100.291
MA-249-20	0.042	0.028	0.009	14.446	55.368	0.219	11.226	0.278	17.919	0.041	0.130	99.706	0.915	17.095	99.798
MA-251-01	0.120	0.339	0.016	12.705	52.932	0.161	8.340	0.886	23.855	0.143	0.253	99.750	3.431	20.768	100.094
MA-25[illegible]-02	0.091	0.415	0.000	13.091	54.958	0.192	11.156	0.256	19.706	0.104	0.101	100.070	2.473	17.481	100.318
MA-257-02	0.045	1.281	0.014	14.384	46.008	0.328	9.171	0.304	27.661	0.131	0.086	99.413	6.880	21.471	100.102
MA-263-03	0.083	1.093	0.041	12.894	47.491	0.263	6.217	0.306	31.267	0.104	0.096	99.855	6.177	25.709	100.474
MA-263-04	0.133	0.413	0.000	9.038	55.737	0.106	7.386	0.230	26.385	0.100	0.096	99.624	4.366	22.456	100.061
MA-263-05	0.145	0.403	0.000	9.807	57.297	0.086	11.541	0.196	19.997	0.158	0.059	99.689	4.196	16.221	100.109
MA-267-04	0.068	1.301	0.039	11.844	51.947	0.279	10.548	0.252	23.402	0.145	0.111	99.936	4.774	19.106	100.414
MA-267-06	0.154	0.310	0.012	14.021	54.713	0.176	14.007	0.169	16.400	0.188	0.029	100.179	3.379	13.359	100.518
MA-267-07	0.213	1.015	0.039	27.412	37.697	0.179	16.293	0.150	16.965	0.217	0.045	100.225	4.711	12.726	100.697
MA-267-09	0.071	0.335	0.002	12.378	52.848	0.217	7.904	0.442	25.449	0.105	0.116	99.867	3.784	22.045	100.246
MA-279-02	0.047	1.773	0.000	13.858	44.981	0.369	10.281	0.268	27.739	0.107	0.097	99.520	8.277	20.292	100.349
MA-285-03	0.152	0.278	0.021	15.157	54.913	0.134	14.771	0.189	14.243	0.171	0.039	100.068	2.256	12.213	100.294
MA-285-04	0.111	0.498	0.000	12.375	51.858	0.258	9.565	0.230	24.650	0.105	0.113	99.763	5.202	19.969	100.284
MA-291-02	0.160	0.338	0.002	13.061	56.156	0.141	14.360	0.159	15.249	0.207	0.044	99.877	3.042	12.512	100.182
MA-291-03	0.095	1.875	0.024	20.300	41.147	0.199	13.916	0.197	21.869	0.174	0.077	99.873	6.780	15.768	100.552
MA-291-04	0.123	0.431	0.002	16.922	51.313	0.238	15.282	0.164	15.073	0.202	0.020	99.770	3.536	11.891	100.124
MA-291-05	0.197	0.299	0.083	10.720	57.287	0.055	13.791	0.168	17.138	0.188	0.044	99.970	4.559	13.036	100.427
MA-291-06	0.128	0.319	0.049	14.251	54.860	0.125	13.290	0.208	16.623	0.157	0.065	100.075	2.544	14.334	100.330
MA-337-02	0.074	0.347	0.005	11.738	51.167	0.178	3.653	0.583	31.840	0.093	0.236	99.914	4.059	28.188	100.321
MA-363-02	0.080	0.440	0.000	15.579	48.150	0.222	10.840	0.188	24.048	0.102	0.074	99.723	6.212	18.458	100.345
MA-367-06	0.143	0.182	0.021	8.889	58.046	0.075	9.754	0.694	21.663	0.174	0.033	99.674	3.947	18.111	100.069
MA-367-07	0.086	0.773	0.042	11.262	52.535	0.274	10.086	0.282	24.624	0.125	0.105	100.194	5.849	19.361	100.780
MA-367-08	0.056	1.114	0.058	13.160	45.713	0.362	9.282	0.306	29.474	0.065	0.098	99.688	9.146	21.245	100.604
MA-367-09	0.045	0.663	0.019	11.593	52.903	0.342	9.986	0.284	23.903	0.062	0.107	99.907	4.952	19.447	100.403

Sample	SiO2	TiO2	Nb2O5	Al2O3	Cr2O3	V2O5	MgO	MnO	FeO*	NiO	ZnO	Total	Fe2O3	FeO	Total
MA-367-10	0.145	0.979	0.012	33.569	32.034	0.138	17.405	0.106	15.347	0.255	0.068	100.058	4.047	11.705	100.464
MA-377-01	0.064	0.542	0.000	12.080	52.677	0.241	10.018	0.421	23.414	0.102	0.077	99.636	4.929	18.979	100.130
MA-377-02	0.071	0.449	0.000	10.817	49.725	0.217	2.368	0.505	34.957	0.106	0.368	99.583	5.491	30.016	100.133
MA-379-01	0.056	0.478	0.000	12.150	50.774	0.249	9.289	0.499	25.814	0.111	0.088	99.508	6.530	19.938	100.162
MA-393-01	0.081	1.149	0.021	12.759	47.057	0.346	9.826	0.306	28.022	0.130	0.081	99.778	8.556	20.323	100.635
MA-399-06	0.116	0.467	0.000	12.631	51.283	0.273	10.491	0.239	23.716	0.145	0.079	99.440	5.815	18.483	100.023
MA-399-07	0.119	0.451	0.000	9.894	53.840	0.116	7.118	0.892	26.767	0.153	0.331	99.681	5.155	22.129	100.197
MA-399-08	0.113	0.371	0.024	17.921	43.075	0.131	8.247	0.615	28.548	0.161	0.162	99.368	7.283	21.995	100.098
MA-399-09	0.098	0.641	0.062	8.888	51.886	0.149	6.243	0.892	30.072	0.074	0.138	99.143	7.105	23.679	99.855
MA-399-13	0.173	0.490	0.002	11.487	53.946	0.192	12.611	0.229	20.571	0.129	0.062	99.892	5.951	15.217	100.488
MA-403-02	0.078	1.045	0.000	11.456	49.657	0.355	5.471	0.266	30.851	0.126	0.129	99.434	4.826	26.509	99.917
MA-403-03	0.096	0.408	0.000	12.958	51.794	0.263	8.022	0.209	25.760	0.108	0.089	99.707	3.813	22.329	100.089
MA-405-02	0.109	0.373	0.000	10.047	54.813	0.087	11.303	0.240	22.506	0.152	0.062	99.692	6.618	16.551	100.355
MA-405-03	0.146	0.411	0.014	9.665	55.733	0.116	8.841	0.272	24.324	0.130	0.077	99.729	4.414	20.352	100.171
MA-407-06	0.063	0.117	0.030	13.277	57.091	0.266	12.629	0.204	15.417	0.056	0.137	99.287	0.599	14.878	99.347
MA-409-05	0.144	0.309	0.000	13.725	54.456	0.192	13.165	0.199	16.896	0.199	0.040	99.325	2.920	14.268	99.618
MA-409-06	0.130	0.475	0.002	13.836	50.298	0.222	9.918	0.280	24.002	0.096	0.108	99.367	5.068	19.442	99.875
MA-411-06	0.151	0.358	0.073	14.556	52.861	0.163	13.052	0.199	18.675	0.149	0.049	100.286	4.063	15.019	100.693
MA-413-01	0.111	0.317	0.000	14.173	53.287	0.176	13.667	0.149	16.898	0.173	0.049	99.000	3.790	13.487	99.380
MA-421-02	0.096	0.376	0.014	13.468	49.629	0.199	4.391	0.672	30.233	0.085	0.435	99.598	3.536	27.051	99.952
MA-423-18	0.116	0.416	0.007	12.182	51.685	0.227	8.371	0.229	25.371	0.102	0.081	98.787	4.452	21.365	99.233
MA-423-20	0.103	0.493	0.000	14.975	50.039	0.262	11.497	0.256	22.040	0.155	0.104	99.924	5.161	17.396	100.441
MA-423-21	0.185	1.235	0.000	28.122	36.371	0.133	15.988	0.154	17.633	0.228	0.073	100.122	4.831	13.286	100.606
MA-423-23	0.126	0.958	0.035	12.645	52.299	0.125	11.949	0.188	21.564	0.125	0.045	100.059	5.290	16.804	100.589
MA-423-24	0.162	1.122	0.000	28.762	35.583	0.121	16.564	0.144	17.488	0.238	0.082	100.266	5.647	12.407	100.832
MA-423-25	0.067	1.025	0.014	11.742	52.847	0.264	11.093	0.263	22.539	0.137	0.079	100.070	5.009	18.032	100.572
MA-423-27	0.157	0.813	0.012	25.483	41.252	0.198	16.983	0.161	14.897	0.228	0.068	100.252	4.250	11.072	100.678
MA-423-28	0.080	0.643	0.012	9.900	53.643	0.095	9.657	0.684	24.522	0.124	0.112	99.472	6.429	18.737	100.116
MA-423-29	0.086	0.477	0.044	12.644	53.541	0.264	11.004	0.236	21.370	0.115	0.069	99.850	3.924	17.840	100.243
MA-423-30	0.075	0.415	0.000	13.964	53.910	0.258	12.422	0.253	18.568	0.085	0.137	100.087	3.113	15.767	100.399
MA-423-31	0.177	0.291	0.000	12.915	56.994	0.123	14.987	0.161	14.460	0.197	0.035	100.340	3.129	11.645	100.653
MA-423-32	0.081	0.442	0.000	15.374	51.422	0.196	12.763	0.192	19.475	0.105	0.094	100.144	4.391	15.524	100.584
MA-423-33	0.058	0.124	0.000	24.153	43.249	0.188	13.399	0.280	17.825	0.110	0.120	99.506	2.853	15.258	99.792
MA-423-34	0.055	0.623	0.007	14.078	50.307	0.240	7.219	0.390	26.761	0.095	0.104	99.879	3.390	23.711	100.219
MA-423-35	0.059	0.642	0.000	13.517	49.716	0.276	10.498	0.236	24.402	0.126	0.104	99.576	6.281	18.750	100.205
MA-427-01	0.158	0.276	0.000	11.584	52.015	0.138	3.839	1.676	29.009	0.108	0.870	99.673	3.271	26.066	100.001
MA-429-13	0.092	1.516	0.000	25.074	37.011	0.114	14.116	0.192	21.225	0.169	0.089	99.598	6.215	15.633	100.221
MA-429-14	0.084	0.917	0.000	21.931	44.564	0.186	15.502	0.174	16.414	0.187	0.059	100.018	4.121	12.706	100.431
MA-431-39	0.129	0.286	0.047	14.200	54.591	0.102	13.070	0.181	17.348	0.186	0.020	100.160	2.974	14.672	100.458
MA-431-40	0.052	0.739	0.030	13.198	48.972	0.275	4.775	0.421	31.242	0.081	0.212	99.997	4.241	27.426	100.422
MA-431-41	0.149	0.359	0.007	13.481	51.524	0.153	9.265	0.215	24.875	0.127	0.081	100.236	4.819	20.539	100.719

Sample	SiO2	TiO2	Nb2O5	Al2O3	Cr2O3	V2O5	MgO	MnO	FeO*	NiO	ZnO	Total	Fe2O3	FeO	Total
MA-431-42	0.169	0.278	0.054	14.389	54.543	0.183	15.028	0.159	14.911	0.194	0.025	99.933	3.429	11.826	100.277
MA-431-43	0.116	0.889	0.042	11.503	52.187	0.294	10.045	0.246	24.234	0.093	0.086	99.735	5.191	19.563	100.255
MA-431-46	0.113	1.640	0.002	23.008	41.063	0.236	15.471	0.150	18.137	0.184	0.077	100.081	4.892	13.735	100.571
MA-431-47	0.090	0.361	0.067	12.117	54.690	0.228	11.023	0.232	21.117	0.116	0.090	100.131	3.834	17.667	100.515
MA-431-48	0.127	0.329	0.000	15.609	51.858	0.137	12.782	0.231	18.821	0.174	0.061	100.129	3.903	15.309	100.520
MA-431-50	0.153	0.283	0.075	13.841	56.632	0.126	15.024	0.151	13.342	0.179	0.042	99.848	1.919	11.615	100.040
MA-431-66	0.117	0.460	0.000	10.784	50.402	0.126	4.187	1.045	31.365	0.129	0.572	99.187	5.657	26.275	99.754
MA-433-42	0.097	0.477	0.000	12.857	55.302	0.134	13.074	0.243	17.982	0.155	0.057	100.378	3.753	14.605	100.754
MA-435-02	0.108	0.356	0.000	12.982	53.087	0.177	10.730	0.226	22.316	0.123	0.071	100.176	4.607	18.171	100.638
MA-435-03	0.161	0.280	0.065	12.059	54.289	0.140	9.730	0.290	22.723	0.112	0.080	99.929	3.687	19.405	100.298
MA-435-04	0.122	0.294	0.021	15.837	47.107	0.128	4.061	0.985	31.062	0.125	0.193	99.935	3.664	27.765	100.302
MA-435-05	0.065	0.376	0.040	12.309	50.316	0.239	8.985	0.344	26.663	0.088	0.122	99.547	6.809	20.536	100.229
MA-435-06	0.062	0.913	0.035	14.172	47.113	0.261	9.759	0.618	26.432	0.133	0.071	99.569	7.264	19.895	100.297
MA-435-07	0.124	0.263	0.000	14.114	52.562	0.172	9.483	0.410	22.280	0.151	0.238	99.797	2.900	19.671	100.088
MA-435-08	0.102	0.491	0.016	12.809	53.251	0.206	11.396	0.250	21.023	0.089	0.082	99.715	4.311	17.144	100.147
MA-435-10	0.091	0.506	0.079	11.618	50.192	0.268	5.629	0.359	30.320	0.104	0.216	99.382	5.242	25.603	99.907
MA-435-11	0.051	1.324	0.000	10.901	46.575	0.378	8.225	0.298	31.311	0.100	0.106	99.269	9.791	22.501	100.250
MA-435-12	0.112	1.636	0.000	24.853	35.426	0.197	14.813	0.191	22.290	0.176	0.057	99.751	8.212	14.901	100.574
MA-435-13	0.092	0.254	0.035	13.397	49.770	0.230	5.350	0.464	29.958	0.054	0.270	99.874	4.377	26.020	100.313
MA-435-15	0.176	1.059	0.000	28.545	36.806	0.112	16.549	0.096	16.585	0.247	0.052	100.227	4.672	12.381	100.695
MA-435-16	0.144	0.279	0.000	12.465	55.565	0.077	11.595	0.218	19.644	0.153	0.052	100.192	3.418	16.568	100.534
MA-435-17	0.108	0.312	0.000	12.526	55.346	0.159	12.319	0.216	18.731	0.148	0.064	99.929	3.597	15.494	100.289
MA-439-02	0.074	0.589	0.000	14.737	51.931	0.165	11.690	0.212	20.037	0.146	0.118	99.699	3.485	16.901	100.048
MA-439-03	0.095	0.303	0.012	16.206	47.401	0.196	5.831	0.861	28.881	0.127	0.170	100.083	3.892	25.379	100.473
MA-439-04	0.039	0.534	0.000	6.825	51.675	0.190	3.448	0.474	36.072	0.042	0.468	99.767	9.141	27.847	100.683
MA-439-05	0.122	0.329	0.000	14.083	52.762	0.194	12.468	0.214	19.791	0.129	0.025	100.117	4.511	15.732	100.569
MA-439-06	0.158	0.287	0.040	14.697	55.440	0.165	15.459	0.125	13.559	0.211	0.040	100.181	2.581	11.236	100.440
MA-439-10	0.165	0.291	0.000	13.029	56.580	0.073	14.554	0.144	14.451	0.183	0.060	99.530	2.753	11.973	99.806
MA-441-12	0.062	0.592	0.000	16.452	47.040	0.243	11.757	0.195	22.902	0.137	0.072	99.452	6.322	17.214	100.085
MA-441-13	0.084	0.025	0.000	12.275	58.540	0.338	11.735	0.217	16.998	0.049	0.134	100.395	0.589	16.468	100.454
MA-441-14	0.168	0.855	0.000	28.690	36.440	0.131	16.820	0.116	16.504	0.246	0.058	100.028	5.287	11.746	100.558
MA-441-15	0.073	0.432	0.012	15.766	48.198	0.189	7.273	0.372	27.363	0.111	0.231	100.020	4.165	23.615	100.437
MA-441-16	0.143	1.098	0.041	25.536	39.438	0.140	16.010	0.181	17.326	0.228	0.071	100.212	5.113	12.725	100.724
MA-441-17	0.138	1.734	0.000	23.188	39.981	0.179	15.625	0.173	18.669	0.210	0.066	99.963	5.753	13.493	100.539
MA-441-18	0.142	0.286	0.014	13.412	55.564	0.127	13.596	0.185	16.370	0.130	0.048	99.874	2.968	13.699	100.171
MA-441-19	0.130	0.291	0.038	14.575	54.084	0.188	13.755	0.184	16.118	0.143	0.092	99.598	2.796	13.602	99.878
MA-441-20	0.064	0.554	0.000	11.363	49.579	0.353	5.949	0.476	30.504	0.070	0.537	99.449	6.343	24.796	100.085
MA-441-21	0.139	0.258	0.000	12.583	54.144	0.134	10.119	0.236	21.897	0.135	0.050	99.695	3.494	18.753	100.045
MA-441-22	0.103	0.381	0.000	16.286	51.110	0.150	13.139	0.161	18.145	0.116	0.062	99.653	3.635	14.874	100.017
MA-441-23	0.049	1.465	0.000	12.338	50.803	0.348	10.615	0.247	23.531	0.132	0.123	99.651	4.824	19.190	100.134
MA-441-24	0.030	0.601	0.016	10.334	52.637	0.205	11.335	0.287	24.065	0.141	0.095	99.746	8.048	16.823	100.552

Sample	SiO2	TiO2	Nb2O5	Al2O3	Cr2O3	V2O5	MgO	MnO	FeO*	NiO	ZnO	Total	Fe2O3	FeO	Total
MA-441-26	0.131	0.300	0.023	13.690	54.452	0.164	13.703	0.205	16.959	0.168	0.033	99.828	3.735	13.598	100.202
MA-441-27	0.075	0.004	0.000	12.949	57.713	0.206	12.461	0.244	16.424	0.076	0.062	100.214	1.366	15.194	100.351
MA-441-29	0.058	0.312	0.000	15.348	44.704	0.147	0.705	1.228	34.071	0.045	2.798	99.416	4.469	30.050	99.864
MA-441-30	0.156	0.276	0.000	13.916	55.166	0.141	14.256	0.187	15.818	0.188	0.049	100.153	3.330	12.822	100.487
MA-441-31	0.086	0.364	0.000	11.830	53.329	0.177	9.716	0.292	24.163	0.106	0.089	100.152	5.231	19.456	100.676
MA-441-32	0.111	1.661	0.000	26.385	32.813	0.159	14.144	0.203	23.653	0.180	0.081	99.390	8.528	15.980	100.244
MA-441-33	0.146	0.358	0.062	12.153	50.451	0.191	5.369	0.333	30.214	0.098	0.171	99.546	4.679	26.004	100.015
MA-441-34	0.078	0.540	0.054	15.812	51.188	0.313	13.619	0.195	18.144	0.185	0.073	100.201	3.993	14.551	100.601
MA-441-35	0.131	0.273	0.033	12.976	53.388	0.122	10.296	0.229	21.947	0.127	0.076	99.598	3.803	18.525	99.979
MA-441-57	0.091	0.291	0.026	13.747	54.813	0.125	14.218	0.154	14.765	0.187	0.009	98.426	2.751	12.289	98.702
MA-441-58	0.081	0.727	0.007	27.903	38.515	0.129	15.048	0.217	16.627	0.208	0.092	99.554	3.113	13.826	99.866
MA-441-59	0.156	0.229	0.000	12.064	54.355	0.129	9.384	0.274	22.326	0.117	0.090	99.124	3.099	19.537	99.435
MA-441-60	0.125	0.261	0.000	13.457	56.287	0.150	15.528	0.110	12.819	0.198	0.036	98.971	2.632	10.451	99.235
MA-443-03	0.111	0.487	0.007	11.746	50.673	0.211	7.292	0.328	29.045	0.084	0.143	100.127	6.381	23.304	100.766
MA-443-04	0.131	0.283	0.000	14.708	49.819	0.175	5.015	0.841	28.636	0.168	0.599	100.375	2.887	26.039	100.664
MA-443-05	0.058	1.247	0.000	14.980	43.312	0.378	9.271	0.282	29.393	0.109	0.121	99.151	8.858	21.423	100.038
MA-443-06	0.165	0.247	0.058	12.652	56.390	0.064	13.408	0.150	16.765	0.195	0.030	100.124	3.207	13.879	100.445
MA-443-09	0.087	0.333	0.000	14.226	53.604	0.171	8.018	0.413	23.259	0.075	0.134	100.320	1.122	22.250	100.432
MA-461-01	0.091	0.382	0.012	12.860	52.836	0.221	9.956	0.255	22.994	0.132	0.085	99.824	4.165	19.247	100.241
MA-467-01	0.115	0.356	0.000	12.655	53.622	0.181	10.843	0.289	21.923	0.138	0.042	100.164	4.467	17.904	100.612
MA-467-02	0.135	0.299	0.007	6.337	55.041	0.053	0.376	1.925	32.866	0.097	2.450	99.586	4.624	28.705	100.049
MA-467-04	0.093	0.577	0.000	13.759	46.948	0.248	8.194	0.303	29.418	0.176	0.116	99.832	7.976	22.241	100.631
MA-467-05	0.063	1.144	0.000	11.297	49.333	0.346	9.095	0.363	28.018	0.141	0.091	99.891	7.679	21.108	100.660
MA-467-06	0.079	0.349	0.000	11.926	51.343	0.167	4.642	0.345	31.004	0.095	0.115	100.065	4.347	27.092	100.501
MA-467-07	0.083	0.331	0.060	11.944	53.038	0.142	10.140	0.298	23.690	0.095	0.114	99.935	5.532	18.712	100.489
MA-467-10	0.140	0.306	0.000	9.458	51.834	0.122	0.824	1.320	34.569	0.187	0.591	99.351	4.215	30.777	99.773
MA-467-13	0.064	0.436	0.000	12.633	53.281	0.245	11.423	0.234	20.877	0.121	0.077	99.391	4.411	16.908	99.833
MA-471-03	0.095	0.465	0.040	13.808	53.075	0.200	11.461	0.211	19.896	0.131	0.084	99.466	3.129	17.080	99.780
MA-477-06	0.107	0.322	0.000	7.195	53.822	0.090	0.450	1.840	32.859	0.010	2.736	99.431	4.710	28.621	99.903
MA-479-03	0.125	0.458	0.002	9.821	54.362	0.161	5.631	0.196	28.382	0.161	0.448	99.747	3.688	25.063	100.117
MA-479-05	0.072	1.446	0.000	14.029	46.779	0.357	9.891	0.734	26.353	0.168	0.106	99.935	6.831	20.206	100.619
MA-489-12	0.092	0.976	0.007	14.872	48.528	0.307	11.292	0.216	23.834	0.143	0.089	100.356	6.028	18.410	100.960
MA-489-18	0.132	0.551	0.002	34.167	31.531	0.190	17.648	0.142	15.112	0.254	0.079	99.808	4.592	10.980	100.268
MA-489-19	0.057	0.559	0.000	12.112	50.018	0.204	5.145	1.142	30.454	0.094	0.137	99.922	5.266	25.716	100.450
MA-489-21	0.087	0.465	0.000	11.201	50.441	0.204	3.878	1.453	31.250	0.061	0.193	99.233	4.829	26.905	99.717
MA-493-15	0.101	0.261	0.000	33.273	30.509	0.188	15.458	0.154	19.793	0.202	0.062	100.001	6.403	14.032	100.643
MA-493-16	0.076	0.364	0.000	14.146	51.651	0.225	11.067	0.200	22.336	0.063	0.088	100.216	4.858	17.965	100.703
MA-493-17	0.047	1.086	0.000	11.862	50.492	0.310	9.766	0.280	25.665	0.139	0.110	99.757	6.249	20.042	100.383
MA-493-18	0.082	0.911	0.000	15.298	47.463	0.248	9.176	0.402	25.501	0.136	0.108	99.325	5.001	21.001	99.826
MA-493-19	0.054	1.118	0.002	13.419	50.188	0.267	9.646	0.260	24.487	0.134	0.113	99.688	4.525	20.415	100.141
MA-507-02	0.159	0.233	0.000	10.276	52.419	0.088	4.640	0.891	29.936	0.082	0.288	99.012	4.727	25.683	99.486

Sample	SiO2	TiO2	Al2O3	Cr2O3	MgO	CaO	MnO	FeO	Na2O	K2O	Total
Kimberlitic Chrome Diopsides (According to ternary plot)											
MA-005-47	54.988	0.465	6.204	2.323	12.952	15.458	0.075	2.742	4.849	0.000	100.056
MA-011-43	55.263	0.190	3.218	0.744	18.636	15.345	0.130	4.408	2.006	0.015	99.955
MA-011-44	54.918	0.271	2.221	0.854	18.824	17.705	0.116	3.433	1.474	0.030	99.846
MA-013-02	55.052	0.151	0.402	1.022	16.823	22.728	0.086	2.344	1.097	0.004	99.709
MA-013-10	53.883	0.022	0.870	0.141	15.597	23.167	0.187	5.256	0.653	0.000	99.776
MA-017-11	54.797	0.074	4.098	2.825	14.506	19.206	0.050	1.336	3.003	0.002	99.897
MA-027-48	55.179	0.172	2.167	2.838	15.184	20.216	0.071	1.944	2.575	0.007	100.353
MA-027-62	54.587	0.118	6.094	0.377	14.535	20.880	0.026	1.054	2.662	0.003	100.336
MA-031-22	55.093	0.115	0.744	0.447	17.428	22.307	0.085	2.464	1.054	0.003	99.740
MA-035-07	55.141	0.139	0.347	2.008	16.367	22.079	0.072	2.370	1.542	0.000	100.065
MA-035-08	54.439	0.235	3.220	2.311	15.314	20.344	0.060	1.610	2.412	0.000	99.945
MA-037-05	54.959	0.099	0.362	2.392	16.604	22.090	0.063	1.781	1.513	0.001	99.864
MA-049-02	55.037	0.095	3.070	3.014	14.846	18.636	0.075	2.115	3.021	0.004	99.913
MA-049-04	54.367	0.014	1.361	0.495	15.787	23.994	0.081	2.833	0.777	0.000	99.709
MA-053-03	55.021	0.080	0.909	2.119	16.010	21.619	0.074	2.286	1.847	0.000	99.965
MA-055-24	54.655	0.409	2.297	1.590	18.341	17.934	0.127	3.161	1.577	0.036	100.127
MA-061-05	54.054	0.023	1.712	0.733	14.880	23.244	0.146	4.023	1.110	0.000	99.925
MA-061-07	53.980	0.008	0.811	0.310	15.542	23.931	0.153	4.576	0.658	0.000	99.969
MA-061-08	54.318	0.055	0.818	0.162	16.484	22.730	0.165	4.378	0.746	0.001	99.857
MA-063-33	54.298	0.021	0.884	0.695	15.643	23.828	0.167	3.499	0.684	0.000	99.719
MA-065-11	54.571	0.194	2.692	2.267	15.466	20.688	0.082	1.700	2.274	0.000	99.934
MA-065-12	54.683	0.132	2.852	2.375	15.514	20.519	0.078	1.358	2.241	0.008	99.760
MA-065-24	53.991	0.014	0.729	0.713	14.919	23.844	0.192	4.755	0.662	0.005	99.824
MA-083-02	54.557	0.072	2.729	3.117	15.150	18.624	0.086	2.211	2.853	0.000	99.399
MA-093-76	54.847	0.063	2.529	0.942	15.593	20.434	0.106	3.268	2.243	0.004	100.029
MA-093-77	54.562	0.208	1.347	1.666	16.489	21.256	0.119	2.749	1.448	0.002	99.846
MA-095-04	54.515	0.057	2.736	1.768	15.383	20.184	0.048	2.880	2.342	0.000	99.913
MA-095-05	54.280	0.040	1.656	2.002	17.048	20.403	0.081	2.270	1.684	0.005	99.469
MA-095-06	54.953	0.141	1.719	2.595	15.826	20.882	0.063	1.708	2.061	0.004	99.952
MA-097-38	55.010	0.066	4.357	3.043	14.227	18.604	0.084	1.363	3.505	0.002	100.261
MA-097-39	54.773	0.135	2.485	1.359	15.698	21.007	0.112	2.835	1.973	0.000	100.377
MA-097-49	54.263	0.039	1.240	0.529	14.740	23.161	0.167	5.065	1.190	0.000	100.394
MA-099-24	55.002	0.072	0.467	1.822	16.700	22.045	0.070	2.166	1.569	0.003	99.916
MA-099-25	54.636	0.265	1.823	2.738	15.901	20.761	0.075	1.517	2.142	0.000	99.858
MA-099-26	54.371	0.229	3.114	2.692	15.163	20.078	0.084	1.635	2.655	0.003	100.024
MA-101-05	54.126	0.237	0.461	1.596	16.438	20.714	0.107	3.781	1.592	0.000	99.052
MA-101-06	54.994	0.117	0.224	1.568	16.729	22.286	0.083	2.447	1.321	0.004	99.773
MA-117-05	54.693	0.114	1.566	2.137	16.196	21.004	0.075	2.170	1.820	0.000	99.775
MA-119-40	54.399	0.174	1.746	2.128	16.190	21.274	0.064	1.704	1.923	0.000	99.602

Sample	SiO2	TiO2	Al2O3	Cr2O3	MgO	CaO	MnO	FeO	Na2O	K2O	Total
MA-127-11	54.981	0.178	2.613	1.405	16.987	19.522	0.099	2.642	1.869	0.015	100.311
MA-127-13	54.316	0.042	1.140	0.806	14.663	23.216	0.195	5.208	1.015	0.000	100.601
MA-127-14	53.546	0.000	1.036	0.396	14.308	23.283	0.243	5.758	0.982	0.001	99.553
MA-135-25	54.765	0.280	3.188	2.486	15.433	20.081	0.057	1.297	2.526	0.000	100.113
MA-135-39	54.668	0.052	0.566	0.436	16.318	24.405	0.185	3.572	0.411	0.000	100.613
MA-135-42	54.498	0.150	0.681	0.687	17.591	22.725	0.101	3.255	0.443	0.000	100.131
MA-137-91	54.879	0.097	1.447	2.152	15.748	21.286	0.034	2.197	2.102	0.000	99.942
MA-139-07	54.902	0.205	2.936	2.549	15.359	20.600	0.076	1.417	2.497	0.000	100.541
MA-139-08	55.325	0.081	1.774	2.844	15.870	20.693	0.054	1.435	2.232	0.001	100.309
MA-145-05	53.823	0.354	0.834	0.655	17.919	19.494	0.165	5.870	0.449	0.004	99.567
MA-145-21	55.150	0.171	1.335	2.986	15.329	20.725	0.057	2.029	2.546	0.000	100.328
MA-145-22	54.663	0.187	2.925	2.184	15.426	20.845	0.059	1.373	2.213	0.000	99.875
MA-145-23	54.990	0.008	1.101	0.968	17.390	23.072	0.077	2.037	0.898	0.000	100.541
MA-147-12	55.087	0.044	0.423	1.847	16.308	22.248	0.098	2.757	1.558	0.004	100.374
MA-147-13	55.019	0.254	1.917	1.203	18.590	18.739	0.103	2.786	1.376	0.030	100.017
MA-161-03	53.949	0.022	0.778	0.332	15.006	24.126	0.197	4.945	0.503	0.000	99.858
MA-167-03	54.832	0.185	2.524	1.652	16.296	19.800	0.078	2.513	2.090	0.008	99.978
MA-171-25	54.834	0.163	3.277	2.379	15.416	20.249	0.068	1.546	2.545	0.000	100.477
MA-171-26	54.845	0.120	0.858	2.653	15.434	20.925	0.074	3.106	2.066	0.006	100.087
MA-181-11	54.864	0.199	0.298	1.687	17.016	21.480	0.121	3.335	1.365	0.000	100.365
MA-181-18	54.528	0.199	2.656	0.850	18.402	17.151	0.127	3.959	1.646	0.018	99.536
MA-187-20	55.215	0.101	0.603	2.422	16.216	22.185	0.073	1.904	1.745	0.004	100.468
MA-187-21	55.126	0.177	3.617	2.639	15.054	19.550	0.069	1.387	2.786	0.002	100.407
MA-187-22	53.513	0.485	3.105	2.349	17.165	18.326	0.089	2.585	1.803	0.013	99.433
MA-187-23	54.203	0.164	1.463	2.973	15.473	20.405	0.058	2.132	2.513	0.000	99.384
MA-191-09	54.670	0.387	2.106	1.587	18.569	17.872	0.094	2.981	1.570	0.045	99.881
MA-195-05	54.544	0.026	0.844	0.664	15.764	23.871	0.189	3.711	0.693	0.000	100.306
MA-199-21	54.944	0.203	2.802	0.648	19.314	15.711	0.127	4.467	1.667	0.015	99.898
MA-205-12	54.502	0.219	1.446	1.728	16.707	20.305	0.094	3.063	1.644	0.013	99.721
MA-209-24	54.254	0.033	0.860	0.328	15.562	24.386	0.191	3.775	0.519	0.004	99.912
MA-209-26	54.617	0.188	1.554	1.383	16.659	20.756	0.089	3.094	1.538	0.008	99.886
MA-211-32	55.324	0.119	0.995	1.522	16.705	21.589	0.098	2.693	1.495	0.011	100.551
MA-213-08	54.025	0.057	0.950	0.289	15.926	23.164	0.153	4.508	0.518	0.000	99.590
MA-215-04	54.918	0.114	1.436	2.083	15.860	21.622	0.068	1.884	1.918	0.000	99.903
MA-215-06	54.959	0.087	1.539	1.934	17.084	20.899	0.111	2.073	1.572	0.002	100.260
MA-217-01	55.352	0.077	0.555	1.998	16.360	21.982	0.081	2.411	1.635	0.000	100.451
MA-217-02	54.982	0.209	1.797	2.926	15.729	20.717	0.060	1.371	2.273	0.001	100.065
MA-217-03	55.077	0.021	3.170	2.547	14.841	19.758	0.065	2.087	2.710	0.000	100.276
MA-221-02	54.699	0.148	2.809	1.336	15.993	21.181	0.055	1.712	1.960	0.000	99.893
MA-229-15	54.701	0.106	0.458	1.383	16.380	22.530	0.089	2.774	1.307	0.001	99.729
MA-229-17	54.374	0.170	2.534	1.929	15.966	21.105	0.077	1.456	1.946	0.001	99.558

Sample	SiO2	TiO2	Al2O3	Cr2O3	MgO	CaO	MnO	FeO	Na2O	K2O	Total
MA-229-18	54.888	0.100	3.393	2.039	15.398	20.336	0.081	1.514	2.443	0.005	100.197
MA-229-19	54.414	0.073	0.929	0.789	17.076	23.076	0.050	2.495	0.699	0.000	99.601
MA-233-13	55.206	0.061	2.562	0.904	15.737	21.046	0.075	2.911	1.815	0.000	100.317
MA-233-14	54.944	0.185	2.805	0.986	16.071	20.613	0.056	2.391	2.067	0.000	100.118
MA-233-28	54.763	0.198	1.868	2.444	15.891	21.173	0.068	1.573	1.970	0.006	99.954
MA-239-14	55.029	0.020	2.601	2.197	15.914	20.970	0.062	1.567	2.199	0.000	100.559
MA-245-10	54.208	0.103	2.734	2.177	15.542	20.967	0.060	1.380	2.202	0.000	99.373
MA-249-05	55.261	0.106	0.379	2.826	15.942	21.369	0.089	2.302	1.940	0.000	100.214
MA-291-09	54.764	0.482	2.512	1.468	17.299	18.456	0.100	2.966	1.885	0.028	99.960
MA-293-01	54.524	0.187	0.362	2.603	16.099	20.744	0.126	3.368	1.793	0.000	99.806
MA-311-01	55.085	0.072	2.905	2.306	15.549	20.464	0.069	1.423	2.309	0.000	100.182
MA-329-03	54.526	0.191	1.749	0.584	18.992	19.048	0.109	3.702	0.952	0.020	99.873
MA-333-05	54.315	0.286	3.081	3.346	14.690	18.814	0.094	2.273	3.049	0.000	99.948
MA-333-06	54.442	0.055	1.284	0.195	15.393	23.998	0.151	4.565	0.853	0.002	100.938
MA-347-03	54.619	0.259	0.443	2.520	16.366	20.660	0.128	3.319	1.718	0.000	100.032
MA-347-04	54.560	0.022	0.637	0.395	15.748	23.938	0.170	4.149	0.673	0.000	100.292
MA-353-02	54.765	0.340	4.117	2.858	14.394	18.967	0.065	1.522	3.240	0.000	100.268
MA-353-05	54.232	0.047	0.843	0.535	15.434	23.839	0.180	4.217	0.727	0.000	100.054
MA-385-04	55.224	0.080	0.460	1.508	17.197	23.005	0.07[illegible]	1.873	1.088	0.000	100.507
MA-387-01	53.783	0.036	1.353	0.653	15.130	23.551	0.155	4.390	0.943	0.002	99.996
MA-405-04	53.803	0.009	0.865	0.630	14.972	23.918	0.300	5.072	0.763	0.003	100.335
MA-405-06	54.553	0.240	1.426	2.057	16.863	20.135	0.088	2.825	1.605	0.012	99.804
MA-409-10	54.729	0.444	3.244	0.717	17.835	16.057	0.131	4.873	2.195	0.013	100.238
MA-423-44	54.872	0.106	1.751	1.772	15.888	20.933	0.131	3.079	2.032	0.000	100.564
MA-429-25	54.559	0.309	2.319	0.723	17.567	19.063	0.138	3.806	1.482	0.009	99.975
MA-429-36	55.024	0.171	2.438	0.943	18.950	18.361	0.094	3.154	1.406	0.104	100.645
MA-431-68	54.618	0.388	0.230	2.156	16.609	21.913	0.100	2.631	1.409	0.003	100.057
MA-431-69	54.944	0.102	3.858	2.784	14.682	19.508	0.067	1.394	2.979	0.004	100.322
MA-433-47	54.633	0.203	0.330	2.020	16.538	21.456	0.094	3.144	1.494	0.004	99.916
MA-433-48	54.707	0.191	3.821	2.746	14.980	19.356	0.090	1.479	2.933	0.000	100.303
MA-433-49	55.229	0.194	1.578	2.384	16.492	21.729	0.073	1.728	1.926	0.000	101.333
MA-433-50	54.799	0.223	3.248	2.593	15.276	19.232	0.091	2.453	2.889	0.000	100.804
MA-433-51	54.739	0.043	3.665	2.607	14.944	20.005	0.046	1.409	2.749	0.000	100.207
MA-433-52	54.923	0.039	0.486	0.792	16.784	22.889	0.107	3.130	1.223	0.000	100.373
MA-433-53	55.037	0.041	2.124	2.600	15.252	20.370	0.070	2.157	2.524	0.000	100.175
MA-433-56	54.403	0.084	0.843	0.542	16.914	23.739	0.112	3.382	0.528	0.000	100.547
MA-435-22	54.256	0.007	0.813	0.416	15.656	24.588	0.160	3.838	0.524	0.001	100.259
MA-441-49	54.930	0.128	3.129	0.725	19.227	15.739	0.115	4.297	1.728	0.014	100.032
MA-441-61	54.573	0.043	0.583	2.733	16.160	21.406	0.070	1.971	1.874	0.002	99.415
MA-453-07	54.584	0.000	2.788	2.428	15.858	20.725	0.081	1.661	2.201	0.006	100.332
MA-453-08	54.420	0.018	0.807	0.775	15.097	23.618	0.171	4.251	0.961	0.002	100.120

Sample	SiO2	TiO2	Al2O3	Cr2O3	MgO	CaO	MnO	FeO	Na2O	K2O	Total
MA-453-09	54.371	0.035	0.836	0.725	15.571	24.216	0.203	3.750	0.648	0.000	100.355
MA-471-06	54.517	0.052	0.992	0.264	15.799	23.860	0.155	3.821	0.793	0.000	100.253
MA-477-09	54.079	0.315	2.147	2.374	16.814	20.128	0.079	2.650	1.546	0.007	100.139
MA-477-12	54.258	0.094	0.699	0.415	17.137	22.881	0.126	3.715	0.600	0.000	99.925
MA-479-11	54.794	0.198	3.345	1.048	15.828	20.530	0.072	2.160	2.115	0.007	100.097
MA-481-02	54.465	0.035	1.101	0.371	15.593	23.878	0.135	4.054	0.797	0.000	100.429
MA-481-03	53.672	0.019	1.299	0.319	15.364	23.838	0.173	4.464	0.919	0.000	100.067
MA-483-08	54.630	0.137	2.510	1.642	17.081	19.321	0.096	2.666	1.897	0.007	99.987
MA-491-04	54.961	0.066	2.549	1.292	16.266	21.298	0.070	2.392	1.785	0.000	100.679
MA-501-02	54.487	0.060	1.302	0.418	15.538	23.443	0.144	3.822	1.001	0.000	100.215
MA-503-02	54.277	0.067	1.588	0.719	15.067	23.294	0.130	3.917	1.186	0.000	100.245
MA-503-04	54.040	0.026	1.183	0.406	14.930	23.762	0.175	4.719	0.995	0.001	100.237
MA-505-04	54.231	0.171	1.047	0.567	16.617	21.577	0.100	3.925	1.213	0.003	99.451
MA-515-09	54.831	0.142	3.835	1.016	14.488	19.269	0.090	3.585	2.748	0.000	100.004
High Cr diopsides (kimberlitic) (Cr2O3>1.5)											
MA-093-75	54.155	0.276	0.180	2.789	13.547	20.281	0.152	5.631	2.753	0.000	99.764
MA-093-83	52.550	0.240	2.862	1.664	16.993	22.204	0.082	3.217	0.443	0.004	100.259
MA-137-110	54.035	0.115	1.746	1.568	17.748	23.968	0.039	0.684	0.372	0.000	100.275
MA-229-16	54.917	0.272	1.551	2.992	15.778	20.916	0.076	1.552	2.135	0.005	100.194
MA-271-01	54.704	0.104	0.391	1.549	16.133	22.308	0.091	3.243	1.478	0.000	100.001
MA-431-70	54.512	0.162	2.863	1.937	15.107	20.144	0.080	2.972	2.416	0.000	100.193
MA-481-01	53.076	0.380	1.587	1.554	17.916	19.369	0.140	5.266	0.573	0.004	99.865
MA-493-21	53.348	1.051	1.536	1.931	16.976	22.013	0.089	2.629	0.940	0.009	100.522
Cr diopsides (0.5<Cr2O3<1.5)											
MA-003-18	53.877	0.379	0.948	1.108	18.057	19.601	0.147	5.316	0.482	0.000	99.915
MA-003-19	54.357	0.078	0.931	0.957	17.755	22.647	0.089	2.757	0.421	0.000	99.992
MA-005-48	53.882	0.293	0.633	0.904	18.967	18.666	0.170	5.494	0.519	0.051	99.579
MA-007-13	53.626	0.336	0.843	0.929	17.913	19.793	0.146	5.599	0.457	0.001	99.643
MA-007-14	53.632	0.356	0.942	1.251	18.159	19.470	0.156	5.200	0.487	0.002	99.655
MA-007-15	52.347	0.242	3.457	1.295	17.953	18.596	0.163	6.014	0.260	0.003	100.330
MA-007-16	53.274	0.375	0.911	0.796	17.639	19.668	0.163	6.037	0.474	0.004	99.341
MA-007-17	53.757	0.233	1.048	0.897	17.875	21.176	0.139	4.681	0.248	0.000	100.054
MA-009-01	51.694	0.361	3.815	1.203	16.729	19.490	0.136	5.641	0.277	0.000	99.346
MA-011-45	53.993	0.253	0.793	1.075	17.955	20.083	0.161	5.002	0.423	0.000	99.738
MA-013-03	53.602	0.151	1.410	0.843	17.078	23.004	0.108	3.532	0.336	0.003	100.067
MA-013-04	53.224	0.230	1.379	0.958	17.626	20.827	0.128	4.973	0.245	0.004	99.594

Sample	SiO2	TiO2	Al2O3	Cr2O3	MgO	CaO	MnO	FeO	Na2O	K2O	Total
MA-013-05	54.373	0.291	0.717	0.909	18.917	18.412	0.159	5.623	0.430	0.001	99.832
MA-013-06	53.776	0.319	0.913	1.082	18.701	18.696	0.158	5.688	0.490	0.005	99.828
MA-013-07	53.468	0.325	1.144	1.161	17.159	20.882	0.119	4.886	0.449	0.000	99.593
MA-013-08	53.598	0.177	0.933	0.710	17.786	20.947	0.157	4.996	0.229	0.000	99.533
MA-013-09	53.615	0.337	1.151	1.208	17.605	20.761	0.125	4.720	0.446	0.000	99.968
MA-013-11	53.383	0.382	1.314	1.140	16.978	20.461	0.141	5.283	0.544	0.002	99.628
MA-013-12	53.676	0.365	1.081	1.135	17.770	19.619	0.159	5.545	0.513	0.000	99.863
MA-013-13	54.339	0.256	0.623	0.937	19.998	17.399	0.173	5.788	0.435	0.003	99.951
MA-013-14	53.978	0.321	1.021	1.191	18.291	19.539	0.158	5.375	0.505	0.000	100.379
MA-013-15	53.652	0.160	0.942	0.714	17.782	21.486	0.131	4.263	0.232	0.000	99.362
MA-013-16	53.591	0.319	0.942	1.047	18.100	18.761	0.177	5.699	0.494	0.000	99.130
MA-013-17	53.789	0.168	1.044	0.919	18.033	21.183	0.141	4.455	0.235	0.000	99.967
MA-013-18	53.469	0.246	1.230	0.974	17.790	20.480	0.140	5.022	0.268	0.000	99.619
MA-013-19	53.857	0.325	1.055	1.185	17.764	19.712	0.124	5.296	0.497	0.000	99.815
MA-013-20	53.271	0.377	1.115	1.124	17.281	20.307	0.158	5.518	0.520	0.000	99.671
MA-013-21	53.870	0.245	0.839	0.959	18.824	18.849	0.146	5.445	0.393	0.002	99.572
MA-013-22	53.854	0.256	1.080	1.008	18.903	18.745	0.156	5.393	0.406	0.001	99.802
MA-013-23	53.742	0.293	0.999	1.037	18.116	19.221	0.144	5.483	0.471	0.003	99.509
MA-013-24	54.052	0.279	0.659	0.945	18.046	19.556	0.151	5.330	0.407	0.000	99.425
MA-013-25	53.249	0.426	1.226	1.046	17.161	20.655	0.119	5.268	0.466	0.004	99.620
MA-013-26	53.641	0.339	1.325	1.077	18.662	18.157	0.176	6.224	0.449	0.001	100.051
MA-013-27	54.362	0.126	1.254	1.298	18.301	21.195	0.119	2.911	0.481	0.000	100.047
MA-013-28	53.657	0.273	0.795	1.087	18.345	19.160	0.142	5.293	0.481	0.000	99.233
MA-013-29	53.711	0.320	0.811	1.017	18.191	19.262	0.148	5.128	0.460	0.002	99.050
MA-017-12	53.758	0.431	1.063	1.162	17.324	20.005	0.164	5.410	0.489	0.002	99.808
MA-017-13	53.601	0.377	0.973	1.068	17.800	19.976	0.154	5.476	0.519	0.000	99.944
MA-017-14	54.047	0.338	0.928	0.969	18.388	19.444	0.136	5.416	0.435	0.004	100.105
MA-023-11	53.812	0.316	0.749	0.927	18.228	19.091	0.147	5.658	0.459	0.001	99.388
MA-023-12	53.868	0.345	1.013	1.169	18.253	19.087	0.125	5.497	0.493	0.003	99.853
MA-023-13	53.629	0.324	1.031	1.261	18.313	18.725	0.147	5.520	0.472	0.000	99.422
MA-023-14	53.548	0.359	0.987	1.192	17.886	19.557	0.146	5.501	0.488	0.000	99.664
MA-023-15	53.928	0.286	0.884	1.019	18.157	19.569	0.153	5.450	0.438	0.000	99.884
MA-025-08	53.354	0.364	1.416	1.116	18.372	18.709	0.168	5.661	0.418	0.003	99.581
MA-027-49	52.260	0.115	3.256	1.404	16.986	21.653	0.120	3.506	0.505	0.000	99.805
MA-027-50	53.519	0.360	0.962	1.224	17.870	19.872	0.133	5.255	0.484	0.006	99.685
MA-027-51	53.901	0.322	0.812	0.994	17.944	19.684	0.132	5.408	0.472	0.000	99.669
MA-027-52	53.787	0.279	0.935	1.178	18.712	18.282	0.174	5.758	0.466	0.000	99.571
MA-027-53	53.766	0.297	0.736	1.027	18.074	20.061	0.133	5.190	0.441	0.000	99.725
MA-027-54	53.293	0.328	1.287	1.321	16.978	20.385	0.151	4.969	0.538	0.000	99.250
MA-027-55	54.132	0.261	0.629	0.941	18.795	18.743	0.137	5.339	0.418	0.000	99.395
MA-027-56	53.856	0.323	0.818	1.018	17.981	19.751	0.123	5.201	0.461	0.000	99.532

Sample	SiO2	TiO2	Al2O3	Cr2O3	MgO	CaO	MnO	FeO	Na2O	K2O	Total
MA-027-57	53.738	0.347	0.967	1.049	18.143	19.128	0.170	5.604	0.473	0.000	99.619
MA-027-58	52.354	0.216	3.024	1.155	17.891	19.258	0.133	5.459	0.269	0.000	99.759
MA-027-59	53.370	0.360	0.906	0.859	18.216	19.029	0.174	5.864	0.458	0.001	99.237
MA-027-60	53.526	0.356	0.924	1.057	18.270	19.297	0.152	5.302	0.447	0.000	99.331
MA-027-61	53.392	0.359	0.949	1.057	17.749	19.520	0.163	5.420	0.474	0.000	99.083
MA-027-63	53.175	0.315	0.987	1.220	17.888	19.858	0.112	5.260	0.483	0.000	99.298
MA-027-64	53.412	0.303	0.862	1.037	17.885	20.112	0.143	5.312	0.473	0.001	99.540
MA-027-65	53.479	0.253	0.800	1.025	18.366	19.597	0.158	5.273	0.471	0.003	99.425
MA-027-66	53.571	0.183	0.891	0.708	17.849	21.291	0.136	4.661	0.225	0.000	99.515
MA-027-67	52.811	0.416	1.034	0.889	17.324	20.179	0.156	6.008	0.470	0.002	99.289
MA-027-68	53.542	0.316	0.728	0.851	17.950	19.876	0.164	5.428	0.416	0.003	99.274
MA-027-69	53.496	0.394	1.003	0.988	17.523	19.608	0.143	5.605	0.503	0.000	99.263
MA-027-70	53.485	0.362	1.003	1.037	17.789	19.807	0.127	5.305	0.479	0.000	99.394
MA-027-71	52.411	0.203	2.703	0.708	18.140	19.472	0.166	5.652	0.155	0.009	99.619
MA-027-72	53.421	0.162	1.122	0.973	17.828	20.348	0.156	5.108	0.273	0.003	99.394
MA-027-73	53.394	0.367	1.021	1.003	17.575	19.867	0.145	5.764	0.454	0.000	99.590
MA-027-74	53.232	0.360	0.970	1.105	17.434	19.773	0.136	5.426	0.485	0.003	98.924
MA-027-75	54.182	0.336	0.945	1.149	17.848	19.502	0.132	5.392	0.495	0.005	99.986
MA-027-76	53.084	0.468	1.211	0.923	17.373	19.471	0.164	6.233	0.460	0.004	99.391
MA-027-77	53.638	0.377	0.832	1.095	17.633	20.311	0.148	5.114	0.416	0.000	99.564
MA-027-78	53.579	0.373	0.885	1.076	17.936	19.583	0.157	5.392	0.445	0.002	99.428
MA-029-15	54.152	0.277	0.768	1.045	18.889	18.347	0.178	5.798	0.484	0.001	99.939
MA-029-16	54.171	0.297	0.721	0.953	18.544	19.411	0.139	5.090	0.409	0.000	99.735
MA-031-20	53.485	0.404	0.938	0.886	17.566	19.952	0.162	5.624	0.483	0.001	99.501
MA-031-21	53.883	0.347	0.848	0.986	17.988	19.704	0.151	5.261	0.481	0.003	99.652
MA-033-23	53.452	0.179	1.292	0.778	17.107	23.004	0.096	3.193	0.333	0.000	99.434
MA-035-09	54.083	0.328	0.927	0.977	18.521	19.296	0.146	5.657	0.475	0.000	100.410
MA-039-19	53.593	0.442	1.099	1.133	17.551	19.232	0.144	5.785	0.534	0.001	99.514
MA-039-20	52.402	0.178	3.018	1.020	17.422	20.373	0.163	5.593	0.177	0.000	100.346
MA-039-21	54.071	0.256	0.710	0.780	18.618	19.015	0.153	5.579	0.441	0.000	99.623
MA-039-22	53.515	0.256	1.374	0.501	17.227	23.384	0.074	2.913	0.307	0.000	99.551
MA-039-23	53.486	0.383	1.233	1.139	17.860	19.326	0.147	5.897	0.538	0.000	100.009
MA-039-24	53.436	0.265	1.669	1.066	17.000	22.878	0.108	3.182	0.421	0.003	100.028
MA-039-25	51.886	0.151	3.201	1.198	17.307	20.556	0.125	5.185	0.146	0.001	99.756
MA-039-26	53.956	0.378	0.851	1.000	18.803	18.993	0.155	5.425	0.469	0.003	100.033
MA-039-27	54.049	0.162	1.237	0.747	17.461	22.625	0.120	3.066	0.416	0.000	99.883
MA-043-24	53.830	0.227	1.016	0.750	17.925	20.996	0.143	4.528	0.241	0.000	99.656
MA-043-25	53.205	0.304	1.460	1.342	17.502	19.256	0.158	5.386	0.631	0.000	99.244
MA-043-26	54.152	0.294	0.817	0.901	18.837	18.674	0.150	5.606	0.416	0.002	99.849
MA-043-27	53.673	0.208	1.643	0.771	17.248	22.424	0.123	3.841	0.401	0.001	100.333
MA-043-28	53.958	0.302	0.901	1.088	18.031	19.279	0.169	5.429	0.475	0.002	99.634

Sample	SiO2	TiO2	Al2O3	Cr2O3	MgO	CaO	MnO	FeO	Na2O	K2O	Total
MA-043-29	53.864	0.347	1.262	1.206	18.435	18.163	0.154	6.147	0.508	0.000	100.086
MA-043-30	53.645	0.228	0.990	0.789	17.819	20.778	0.136	4.781	0.237	0.003	99.406
MA-043-31	53.551	0.375	0.896	0.767	17.596	19.617	0.183	5.914	0.471	0.005	99.375
MA-043-32	53.796	0.288	0.719	0.967	18.122	19.107	0.162	5.497	0.478	0.000	99.136
MA-047-01	53.648	0.363	0.740	0.794	18.152	19.966	0.185	5.600	0.419	0.005	99.872
MA-049-03	53.435	0.333	1.314	1.280	16.996	20.843	0.131	5.028	0.543	0.004	99.907
MA-055-25	53.548	0.369	0.964	1.208	18.153	19.442	0.158	5.323	0.483	0.003	99.651
MA-055-26	53.774	0.311	0.963	1.095	17.642	19.576	0.119	5.521	0.481	0.000	99.482
MA-057-79	53.703	0.185	1.019	0.826	17.739	21.354	0.127	4.542	0.241	0.000	99.736
MA-057-80	53.787	0.189	1.142	0.851	17.916	20.798	0.162	5.116	0.231	0.001	100.193
MA-057-81	53.977	0.290	0.799	1.030	17.940	19.534	0.153	5.411	0.437	0.001	99.572
MA-059-15	53.535	0.297	0.933	1.162	17.817	19.165	0.170	5.595	0.502	0.000	99.176
MA-059-16	53.913	0.228	0.883	0.549	17.743	21.184	0.145	5.126	0.216	0.000	99.987
MA-059-17	53.896	0.234	1.454	1.520	18.469	18.004	0.162	5.628	0.667	0.002	100.036
MA-059-18	53.596	0.343	1.108	1.132	17.748	19.100	0.132	5.624	0.533	0.001	99.317
MA-059-19	53.622	0.261	0.922	0.986	17.634	20.610	0.135	5.058	0.479	0.000	99.707
MA-059-20	53.739	0.361	0.984	1.131	17.893	19.540	0.150	5.652	0.512	0.000	99.962
MA-059-21	53.806	0.239	1.174	0.873	18.014	20.146	0.168	5.326	0.262	0.001	100.009
MA-059-22	53.833	0.282	0.814	0.995	18.188	19.502	0.148	5.388	0.471	0.000	99.621
MA-059-23	53.871	0.338	0.963	1.116	18.225	19.558	0.132	5.418	0.489	0.003	100.113
MA-059-24	53.909	0.223	0.939	0.842	18.171	21.342	0.110	4.303	0.229	0.000	100.068
MA-059-25	53.872	0.294	0.850	0.996	18.014	19.812	0.144	5.161	0.464	0.000	99.607
MA-059-26	53.939	0.291	0.887	1.117	18.294	19.339	0.166	5.373	0.475	0.000	99.881
MA-059-27	53.713	0.296	0.961	1.124	18.397	19.290	0.151	5.403	0.502	0.000	99.837
MA-059-28	53.739	0.381	0.892	0.822	17.752	19.727	0.176	5.909	0.439	0.000	99.837
MA-061-09	54.260	0.168	1.207	0.693	17.254	23.365	0.102	2.986	0.337	0.000	100.372
MA-061-10	53.395	0.179	1.459	0.716	17.051	22.691	0.095	3.498	0.395	0.000	99.479
MA-063-15	53.859	0.359	1.034	0.998	17.696	19.793	0.129	5.532	0.448	0.000	99.848
MA-063-16	53.938	0.328	0.803	0.981	17.904	19.564	0.169	5.268	0.448	0.000	99.403
MA-063-17	52.148	0.290	2.919	1.225	17.438	19.441	0.146	5.478	0.247	0.002	99.334
MA-063-18	54.128	0.292	0.855	0.967	17.606	20.263	0.153	5.092	0.471	0.000	99.827
MA-063-19	53.135	0.350	1.061	1.162	17.999	19.056	0.164	5.902	0.552	0.000	99.381
MA-063-20	53.589	0.224	1.079	0.782	17.524	20.755	0.139	5.103	0.244	0.000	99.439
MA-063-21	53.207	0.374	0.981	1.191	17.596	19.861	0.169	5.370	0.476	0.003	99.228
MA-063-22	53.287	0.362	1.003	1.204	17.978	19.390	0.160	5.397	0.495	0.001	99.277
MA-063-23	53.088	0.425	1.072	1.036	17.588	19.763	0.160	5.682	0.491	0.000	99.305
MA-063-24	53.251	0.371	1.104	1.114	17.602	19.024	0.148	5.751	0.527	0.002	98.894
MA-063-25	53.748	0.265	1.251	0.934	18.401	19.273	0.122	5.478	0.421	0.000	99.893
MA-063-26	53.743	0.289	0.828	1.070	18.065	19.770	0.123	5.215	0.469	0.001	99.573
MA-063-28	53.576	0.006	0.710	0.569	14.344	24.357	0.878	5.279	0.239	0.001	99.959
MA-063-29	53.444	0.370	0.840	1.018	18.202	19.331	0.160	5.605	0.484	0.004	99.458

Sample	SiO2	TiO2	Al2O3	Cr2O3	MgO	CaO	MnO	FeO	Na2O	K2O	Total
MA-063-30	52.927	0.311	1.114	1.231	17.116	20.627	0.129	4.960	0.528	0.000	98.943
MA-063-31	53.198	0.319	1.146	1.239	17.100	20.727	0.092	5.083	0.545	0.000	99.449
MA-063-32	53.371	0.348	1.133	1.169	17.640	19.436	0.153	5.570	0.510	0.001	99.331
MA-063-34	54.288	0.231	0.675	0.743	19.718	17.838	0.190	5.757	0.397	0.000	99.837
MA-065-13	53.680	0.298	0.704	0.900	18.147	19.354	0.160	5.608	0.472	0.000	99.323
MA-065-14	53.714	0.230	1.041	0.758	18.048	20.303	0.158	5.067	0.245	0.000	99.564
MA-065-15	53.761	0.191	1.093	0.946	17.761	21.122	0.111	4.446	0.259	0.000	99.690
MA-065-16	53.827	0.194	1.065	0.851	17.902	20.991	0.118	4.464	0.238	0.000	99.650
MA-065-17	53.549	0.288	1.276	0.959	18.309	19.215	0.158	5.499	0.402	0.000	99.655
MA-065-18	53.590	0.341	0.967	1.198	18.427	18.351	0.169	5.874	0.483	0.000	99.400
MA-065-19	54.026	0.242	0.960	0.610	18.058	20.881	0.131	4.650	0.221	0.004	99.783
MA-065-20	53.490	0.293	0.878	0.987	17.655	19.870	0.156	5.374	0.448	0.000	99.151
MA-065-21	53.586	0.364	0.828	0.997	17.578	19.696	0.143	5.572	0.458	0.000	99.222
MA-065-22	53.601	0.345	0.942	1.046	18.293	18.925	0.146	5.426	0.480	0.000	99.204
MA-065-23	53.151	0.264	1.371	0.907	17.806	20.387	0.145	5.435	0.258	0.000	99.724
MA-065-25	53.857	0.182	1.228	0.605	17.260	23.232	0.101	3.045	0.347	0.005	99.862
MA-069-24	54.281	0.235	0.709	0.935	19.093	18.688	0.165	5.536	0.426	0.002	100.070
MA-069-25	53.227	0.382	1.050	1.167	17.852	19.426	0.180	5.716	0.506	0.005	99.511
MA-069-26	53.333	0.371	1.121	1.202	17.982	18.904	0.152	5.685	0.535	0.006	99.291
MA-069-27	53.575	0.420	0.983	1.341	18.106	19.535	0.163	5.308	0.496	0.001	99.928
MA-069-28	53.356	0.299	0.758	1.032	18.238	19.619	0.162	5.153	0.461	0.001	99.079
MA-069-29	53.187	0.062	2.073	0.977	18.357	20.933	0.100	3.923	0.139	0.000	99.751
MA-075-02	53.361	0.230	0.995	0.867	19.232	18.356	0.156	5.426	0.371	0.000	98.994
MA-075-03	52.494	0.201	2.797	1.111	18.784	17.671	0.180	5.993	0.245	0.000	99.476
MA-075-04	53.223	0.173	1.427	0.702	17.249	22.728	0.102	3.220	0.377	0.000	99.201
MA-075-05	53.705	0.344	0.968	1.035	17.934	19.115	0.139	5.548	0.464	0.001	99.253
MA-079-21	52.953	0.358	1.440	1.206	17.197	20.529	0.132	5.015	0.509	0.000	99.339
MA-079-22	52.525	0.356	1.458	1.141	17.293	20.384	0.140	5.179	0.490	0.001	98.967
MA-079-24	53.365	0.283	1.344	1.313	17.768	19.751	0.170	5.214	0.516	0.000	99.724
MA-079-25	52.786	0.431	1.617	0.965	16.668	20.210	0.149	5.960	0.551	0.001	99.338
MA-079-26	53.857	0.278	0.981	0.914	17.899	19.523	0.147	5.436	0.433	0.000	99.468
MA-085-01	53.444	0.348	0.918	1.159	18.534	18.974	0.181	5.788	0.507	0.000	99.853
MA-085-02	53.920	0.315	0.943	1.115	18.636	18.526	0.148	5.774	0.490	0.000	99.867
MA-085-03	53.349	0.208	1.512	0.688	16.928	23.125	0.104	3.566	0.297	0.000	99.777
MA-085-04	53.866	0.332	0.925	1.106	17.998	19.418	0.168	5.362	0.500	0.004	99.679
MA-085-05	53.296	0.333	0.966	1.129	17.986	19.251	0.120	5.482	0.504	0.000	99.067
MA-085-06	53.676	0.344	0.984	1.216	18.048	19.451	0.147	5.347	0.511	0.000	99.724
MA-085-07	53.886	0.297	0.752	0.945	18.059	19.579	0.161	5.508	0.474	0.000	99.661
MA-089-03	53.781	0.353	0.980	1.040	18.086	19.158	0.157	5.773	0.523	0.002	99.853
MA-089-04	53.872	0.363	0.997	1.071	17.574	19.883	0.138	5.629	0.499	0.004	100.030
MA-093-78	53.763	0.364	0.970	1.128	18.002	19.469	0.138	5.513	0.490	0.003	99.840

Sample	SiO2	TiO2	Al2O3	Cr2O3	MgO	CaO	MnO	FeO	Na2O	K2O	Total
MA-093-79	53.923	0.352	0.912	1.283	18.595	19.036	0.154	5.373	0.487	0.000	100.115
MA-093-80	53.780	0.375	0.911	0.978	17.675	20.448	0.111	5.127	0.428	0.000	99.833
MA-093-81	53.634	0.382	0.856	1.075	17.496	19.790	0.182	5.600	0.471	0.001	99.487
MA-093-82	54.180	0.250	0.735	0.977	19.129	18.108	0.167	5.919	0.448	0.000	99.913
MA-093-84	53.244	0.358	1.265	1.182	17.099	20.501	0.115	5.296	0.512	0.002	99.574
MA-093-85	53.568	0.313	0.945	1.134	18.319	18.984	0.169	5.617	0.525	0.001	99.575
MA-093-86	53.471	0.326	0.800	0.984	18.278	19.483	0.135	5.352	0.501	0.000	99.330
MA-097-40	53.704	0.318	0.956	1.091	18.486	18.992	0.172	5.631	0.469	0.000	99.819
MA-097-41	53.633	0.332	0.928	1.228	18.371	19.087	0.134	5.247	0.466	0.000	99.426
MA-097-42	53.925	0.309	0.661	0.940	18.628	18.877	0.165	5.570	0.455	0.005	99.535
MA-097-43	53.748	0.291	0.856	1.096	18.277	18.905	0.157	5.487	0.490	0.000	99.307
MA-097-44	53.689	0.341	0.859	1.035	18.367	19.701	0.145	5.238	0.445	0.003	99.823
MA-097-45	53.666	0.319	0.787	0.942	18.240	19.555	0.152	5.294	0.474	0.000	99.429
MA-097-46	53.405	0.319	0.746	0.970	17.962	19.682	0.150	5.348	0.465	0.004	99.051
MA-097-47	53.712	0.306	0.850	0.913	18.316	19.371	0.160	5.756	0.478	0.000	99.862
MA-097-48	53.807	0.288	0.757	0.947	18.662	19.221	0.147	5.367	0.470	0.000	99.666
MA-097-50	53.451	0.320	0.938	1.057	17.937	19.180	0.191	5.757	0.519	0.000	99.350
MA-097-51	53.688	0.364	0.829	0.948	17.975	19.588	0.176	5.704	0.470	0.000	99.742
MA-097-52	53.773	0.349	0.942	1.197	17.591	19.967	0.143	5.270	0.523	0.000	99.755
MA-097-53	53.849	0.340	0.750	0.988	18.196	19.438	0.159	5.455	0.493	0.000	99.668
MA-097-54	53.995	0.318	0.897	1.034	18.161	19.811	0.138	5.377	0.482	0.000	100.213
MA-097-55	53.450	0.449	0.935	1.058	17.408	20.614	0.138	5.312	0.466	0.000	99.830
MA-097-56	53.635	0.349	1.011	1.176	17.666	19.940	0.151	5.293	0.522	0.002	99.745
MA-099-27	53.227	0.380	1.001	1.246	18.319	19.186	0.152	5.362	0.506	0.000	99.379
MA-099-28	53.737	0.384	1.001	1.157	17.766	19.529	0.144	5.450	0.533	0.002	99.703
MA-101-07	53.661	0.309	1.010	1.286	18.020	19.477	0.166	5.327	0.548	0.003	99.807
MA-101-08	53.944	0.362	0.963	1.021	17.763	19.772	0.153	5.506	0.509	0.001	99.994
MA-105-04	53.711	0.319	0.971	1.093	18.068	18.966	0.155	5.632	0.554	0.006	99.475
MA-111-01	54.164	0.326	0.859	1.046	17.695	20.100	0.149	5.337	0.482	0.004	100.162
MA-119-41	53.606	0.369	1.060	1.085	17.999	19.641	0.145	5.321	0.484	0.002	99.712
MA-119-42	53.930	0.193	0.954	0.743	17.883	21.356	0.129	4.442	0.216	0.000	99.846
MA-119-43	54.033	0.345	1.032	1.165	18.269	19.181	0.148	5.428	0.528	0.002	100.131
MA-119-44	53.479	0.321	0.938	1.160	18.148	18.905	0.159	5.467	0.486	0.000	99.063
MA-119-45	53.767	0.342	0.974	1.103	18.068	19.560	0.149	5.472	0.456	0.004	99.895
MA-119-46	54.301	0.060	1.920	0.553	17.781	22.217	0.086	2.631	0.636	0.001	100.186
MA-119-47	53.406	0.242	1.562	0.954	17.317	22.104	0.106	3.726	0.333	0.000	99.750
MA-127-12	53.809	0.284	0.825	1.095	18.256	19.532	0.148	5.178	0.456	0.000	99.583
MA-131-08	53.452	0.310	0.864	1.104	18.148	19.735	0.133	5.368	0.513	0.000	99.627
MA-135-26	53.366	0.389	1.057	1.215	17.895	19.430	0.150	5.292	0.494	0.001	99.289
MA-135-27	53.177	0.391	1.038	1.065	18.003	19.028	0.171	5.632	0.492	0.001	98.998
MA-135-28	54.255	0.306	0.783	1.013	18.377	19.463	0.167	5.267	0.473	0.000	100.104

Sample	SiO2	TiO2	Al2O3	Cr2O3	MgO	CaO	MnO	FeO	Na2O	K2O	Total
MA-135-29	54.301	0.293	0.751	0.952	18.449	19.244	0.159	5.293	0.458	0.001	99.901
MA-135-30	53.736	0.404	1.013	1.181	17.752	19.594	0.150	5.373	0.521	0.006	99.730
MA-135-31	54.035	0.299	0.704	0.960	18.342	19.456	0.158	5.183	0.437	0.002	99.576
MA-135-32	52.843	0.189	2.023	1.032	16.461	23.102	0.079	3.410	0.614	0.001	99.754
MA-135-33	53.997	0.276	0.777	0.952	17.957	20.250	0.133	5.279	0.456	0.000	100.077
MA-135-34	53.872	0.362	0.983	1.036	18.314	18.732	0.167	5.728	0.506	0.001	99.701
MA-135-35	53.[illegible]6	0.307	0.977	1.167	18.109	18.908	0.151	5.691	0.520	0.004	99.470
MA-135-36	53.321	0.338	1.059	1.075	17.705	19.636	0.145	5.562	0.511	0.003	99.355
MA-135-37	53.685	0.308	0.914	1.117	18.671	19.004	0.138	5.334	0.504	0.000	99.675
MA-135-38	53.833	0.310	0.804	1.058	17.903	19.917	0.144	5.125	0.464	0.000	99.558
MA-135-40	54.043	0.291	0.697	0.960	18.746	19.149	0.163	5.404	0.450	0.000	99.903
MA-135-41	54.135	0.292	0.809	1.007	18.706	18.625	0.159	5.680	0.443	0.003	99.859
MA-135-43	53.186	0.348	0.972	1.124	17.908	19.461	0.162	5.462	0.493	0.000	99.116
MA-135-44	53.488	0.355	0.982	0.978	17.894	19.712	0.163	5.507	0.478	0.000	99.557
MA-135-45	53.273	0.355	0.955	1.065	17.921	19.704	0.163	5.418	0.517	0.000	99.371
MA-135-46	53.801	0.309	0.921	1.195	18.145	19.569	0.151	4.994	0.509	0.000	99.594
MA-137-100	53.450	0.324	0.718	0.924	17.936	19.748	0.168	5.422	0.466	0.000	99.156
MA-137-101	53.020	0.317	0.913	1.031	18.480	18.537	0.151	5.757	0.494	0.000	98.700
MA-137-102	53.215	0.388	1.082	1.131	17.796	19.284	0.161	5.616	0.560	0.004	99.237
MA-137-103	53.320	0.365	0.987	1.081	17.855	19.822	0.161	5.374	0.517	0.000	99.482
MA-137-104	53.245	0.358	1.002	1.143	17.798	19.587	0.135	5.394	0.506	0.000	99.168
MA-137-105	53.734	0.355	0.940	1.025	18.061	19.630	0.146	5.322	0.516	0.001	99.730
MA-137-106	51.677	0.493	3.125	1.390	16.485	22.787	0.075	2.911	0.320	0.001	99.264
MA-137-107	52.778	0.318	0.747	0.859	17.961	19.298	0.150	5.653	0.473	0.004	98.241
MA-137-108	53.851	0.320	0.848	1.190	18.601	18.902	0.141	5.009	0.451	0.002	99.315
MA-137-109	52.995	0.395	0.971	1.050	17.468	20.036	0.140	5.608	0.508	0.005	99.176
MA-137-111	53.840	0.368	0.936	1.094	18.439	19.182	0.165	5.558	0.476	0.000	100.058
MA-137-92	53.586	0.423	1.204	1.151	17.962	19.417	0.170	5.700	0.559	0.006	100.178
MA-137-93	53.241	0.304	0.759	0.820	17.967	19.467	0.162	5.433	0.453	0.000	98.606
MA-137-94	53.712	0.274	1.028	1.156	17.816	19.732	0.156	5.236	0.556	0.006	99.672
MA-137-95	53.192	0.396	1.057	1.246	17.947	19.400	0.148	5.472	0.550	0.004	99.412
MA-137-96	53.427	0.263	0.748	1.033	18.991	18.380	0.171	5.730	0.516	0.000	99.259
MA-137-97	53.304	0.244	0.812	1.080	18.632	18.324	0.162	5.602	0.452	0.004	98.616
MA-137-98	53.555	0.033	1.203	0.631	16.445	23.711	0.095	2.983	0.474	0.001	99.131
MA-137-99	53.128	0.341	0.791	1.067	18.007	19.615	0.158	5.262	0.519	0.004	98.892
MA-139-09	54.223	0.334	0.873	1.001	17.912	19.792	0.148	5.349	0.481	0.000	100.113
MA-139-10	54.159	0.291	0.797	0.988	18.116	19.308	0.162	5.405	0.485	0.000	99.711
MA-141-05	53.435	0.182	1.674	1.132	17.426	21.812	0.108	3.626	0.468	0.002	99.865
MA-141-06	54.167	0.329	0.977	1.164	17.815	19.871	0.140	5.358	0.500	0.000	100.321
MA-145-24	54.064	0.371	0.809	1.125	18.147	20.208	0.140	4.991	0.465	0.002	100.322
MA-145-25	53.789	0.298	0.807	0.994	18.808	18.990	0.147	5.601	0.497	0.000	99.931

Sample	SiO2	TiO2	Al2O3	Cr2O3	MgO	CaO	MnO	FeO	Na2O	K2O	Total
MA-145-26	53.916	0.314	0.784	0.921	18.106	19.877	0.144	5.465	0.462	0.000	99.989
MA-147-14	54.064	0.269	0.825	1.091	19.002	18.437	0.166	5.504	0.473	0.000	99.831
MA-147-15	54.373	0.260	0.606	0.874	19.504	17.992	0.186	5.731	0.415	0.002	99.943
MA-149-05	53.690	0.325	0.898	1.351	18.565	18.954	0.159	5.122	0.496	0.000	99.560
MA-153-12	54.171	0.301	0.832	0.972	17.818	20.693	0.159	5.089	0.405	0.000	100.440
MA-153-13	54.080	0.303	0.796	0.913	18.350	19.666	0.166	5.590	0.477	0.000	100.341
MA-153-14	53.500	0.295	0.991	1.146	18.053	19.462	0.153	5.464	0.517	0.000	99.581
MA-153-15	53.686	0.229	0.779	0.760	16.311	22.878	0.111	5.030	0.318	0.003	100.105
MA-153-16	53.642	0.439	1.136	1.049	17.870	19.284	0.192	6.071	0.559	0.004	100.246
MA-153-17	53.658	0.315	0.780	0.999	17.954	19.719	0.139	5.115	0.441	0.000	99.120
MA-153-18	53.691	0.392	1.114	1.213	17.731	19.719	0.152	5.430	0.532	0.003	99.977
MA-153-19	53.627	0.356	0.726	0.856	18.228	19.677	0.153	5.584	0.464	0.000	99.671
MA-153-20	54.349	0.316	0.740	1.011	18.406	19.296	0.164	5.337	0.460	0.000	100.079
MA-157-03	53.479	0.351	0.936	1.197	18.352	19.274	0.152	5.392	0.490	0.000	99.623
MA-163-01	54.069	0.321	0.773	0.974	18.346	19.413	0.150	5.482	0.459	0.003	99.990
MA-163-02	54.946	0.253	0.666	0.993	19.267	18.338	0.173	5.678	0.462	0.001	100.777
MA-167-04	54.064	0.301	0.850	1.094	17.908	19.958	0.145	5.186	0.491	0.002	99.999
MA-167-05	54.286	0.353	0.906	1.026	18.188	19.913	0.122	5.078	0.481	0.009	100.362
MA-167-06	54.123	0.347	0.802	1.004	18.063	20.068	0.161	5.478	0.456	0.000	100.502
MA-167-07	54.323	0.277	0.653	0.858	18.683	19.126	0.158	5.457	0.437	0.000	99.972
MA-171-27	54.179	0.304	0.919	1.018	18.492	18.834	0.165	5.637	0.482	0.000	100.030
MA-171-28	53.352	0.267	1.305	0.889	17.604	21.059	0.109	4.947	0.275	0.001	99.808
MA-179-05	54.457	0.279	0.751	0.910	19.159	18.143	0.158	5.912	0.461	0.000	100.230
MA-179-06	53.900	0.282	0.845	1.127	18.620	18.957	0.169	5.688	0.535	0.000	100.123
MA-179-07	53.669	0.349	0.927	1.052	17.921	20.063	0.148	5.322	0.464	0.001	99.916
MA-179-08	53.825	0.196	1.033	0.906	17.797	21.437	0.121	4.517	0.239	0.000	100.071
MA-179-09	53.724	0.295	1.153	1.216	18.622	18.871	0.155	5.183	0.439	0.000	99.658
MA-179-10	53.869	0.226	0.978	0.634	18.067	21.301	0.129	4.568	0.212	0.000	99.984
MA-179-11	53.672	0.281	0.803	1.099	18.498	19.139	0.154	5.363	0.473	0.006	99.488
MA-179-12	53.581	0.311	0.760	0.946	18.118	19.075	0.145	5.498	0.485	0.000	98.919
MA-179-13	52.019	0.280	3.047	1.049	17.451	19.720	0.156	5.384	0.277	0.001	99.384
MA-181-08	53.515	0.303	0.946	1.157	18.069	19.738	0.149	5.295	0.490	0.002	99.664
MA-181-12	52.977	0.349	1.162	1.022	16.726	21.009	0.136	5.087	0.486	0.000	98.954
MA-181-13	53.670	0.365	0.749	0.847	17.984	19.943	0.141	5.268	0.459	0.003	99.429
MA-181-14	53.407	0.280	1.054	1.182	17.620	20.030	0.156	5.141	0.568	0.000	99.438
MA-181-15	53.459	0.335	1.000	1.144	19.014	18.195	0.183	5.861	0.496	0.000	99.687
MA-181-16	53.773	0.233	1.383	0.611	17.374	23.527	0.075	2.980	0.264	0.000	100.220
MA-181-17	53.045	0.345	1.453	1.179	17.877	19.455	0.150	5.459	0.483	0.000	99.446
MA-181-19	53.507	0.365	0.886	0.992	17.923	19.556	0.163	5.590	0.475	0.000	99.457
MA-181-20	53.308	0.203	1.156	1.026	19.104	18.085	0.142	5.462	0.424	0.000	98.910
MA-181-21	53.580	0.269	0.740	0.818	18.845	18.806	0.159	5.367	0.425	0.000	99.009

Sample	SiO2	TiO2	Al2O3	Cr2O3	MgO	CaO	MnO	FeO	Na2O	K2O	Total
MA-181-22	53.247	0.267	0.866	1.023	18.227	19.819	0.130	5.247	0.488	0.000	99.314
MA-185-05	52.545	0.333	1.280	1.380	16.801	20.585	0.130	5.029	0.575	0.000	98.658
MA-185-06	52.911	0.338	0.947	0.726	18.272	18.858	0.173	6.104	0.455	0.000	98.784
MA-185-07	51.975	0.409	1.452	1.191	16.488	20.494	0.151	5.449	0.577	0.000	98.186
MA-187-24	54.113	0.176	0.987	0.670	17.872	21.018	0.136	4.980	0.231	0.004	100.187
MA-187-25	53.377	0.342	1.010	1.113	17.772	20.036	0.147	5.205	0.499	0.000	99.501
MA-195-01	50.962	0.439	2.564	0.688	16.635	18.592	0.157	8.374	0.349	0.005	98.765
MA-195-07	53.697	0.262	0.893	1.051	18.523	18.443	0.168	5.600	0.487	0.001	99.125
MA-195-08	53.810	0.181	0.950	0.685	17.697	21.311	0.142	4.820	0.220	0.007	99.823
MA-195-09	53.576	0.298	0.959	0.984	17.505	20.705	0.150	5.156	0.496	0.000	99.829
MA-195-10	54.021	0.181	0.875	0.675	17.899	21.106	0.150	4.858	0.232	0.000	99.997
MA-195-11	54.134	0.218	1.310	0.690	17.311	23.288	0.078	2.944	0.322	0.000	100.295
MA-195-12	52.722	0.383	1.595	1.062	16.757	20.654	0.130	5.459	0.573	0.002	99.337
MA-195-13	53.059	0.391	1.422	1.293	16.989	20.215	0.124	5.266	0.567	0.002	99.328
MA-195-14	53.578	0.403	1.290	1.157	17.403	20.538	0.139	5.183	0.513	0.000	100.204
MA-199-17	53.375	0.390	1.043	1.128	17.615	19.586	0.156	5.541	0.530	0.000	99.364
MA-199-18	53.573	0.370	0.843	0.905	17.791	19.793	0.159	5.470	0.472	0.004	99.380
MA-199-19	53.415	0.378	0.886	1.052	18.046	19.933	0.160	5.224	0.500	0.000	99.594
MA-199-20	52.953	0.218	1.433	0.957	17.068	23.119	0.109	3.010	0.304	0.002	99.173
MA-199-22	53.756	0.315	0.846	1.020	18.016	19.450	0.162	5.226	0.482	0.000	99.273
MA-203-01	55.080	0.207	0.668	0.515	17.013	22.498	0.107	3.255	0.916	0.008	100.267
MA-207-04	53.431	0.157	1.022	0.793	17.988	21.047	0.143	4.702	0.247	0.000	99.530
MA-207-05	53.309	0.178	0.916	0.855	17.993	21.513	0.120	4.438	0.251	0.000	99.573
MA-207-06	53.315	0.321	0.759	1.012	18.088	19.934	0.132	5.094	0.479	0.000	99.134
MA-207-07	53.570	0.312	0.941	0.999	18.813	18.398	0.172	5.999	0.468	0.000	99.672
MA-209-20	54.340	0.301	0.702	0.936	18.171	20.069	0.147	5.242	0.434	0.004	100.346
MA-209-21	54.075	0.291	0.749	1.031	18.358	19.223	0.154	5.441	0.512	0.000	99.834
MA-209-22	53.890	0.310	0.834	0.910	17.529	21.208	0.137	5.044	0.428	0.000	100.290
MA-209-23	54.369	0.176	0.970	0.729	18.163	21.220	0.120	4.702	0.224	0.001	100.674
MA-209-25	54.147	0.212	0.976	0.681	17.913	20.953	0.146	4.939	0.245	0.001	100.213
MA-209-27	53.232	0.319	1.345	1.273	18.271	19.255	0.150	5.492	0.447	0.000	99.784
MA-209-28	53.675	0.337	0.866	1.055	18.081	19.973	0.146	5.389	0.498	0.000	100.020
MA-209-29	54.048	0.026	0.832	0.829	16.260	24.289	0.114	3.326	0.490	0.005	100.219
MA-209-30	54.260	0.235	0.714	0.979	18.645	19.527	0.162	5.214	0.457	0.003	100.196
MA-209-31	54.199	0.296	0.620	0.660	18.370	19.332	0.180	5.615	0.399	0.000	99.671
MA-209-32	53.496	0.238	1.317	0.556	17.288	23.369	0.090	3.069	0.311	0.006	99.740
MA-211-31	53.833	0.293	1.057	1.076	17.275	20.767	0.128	5.137	0.513	0.001	100.080
MA-213-07	54.080	0.272	1.184	0.745	17.797	21.166	0.136	4.664	0.250	0.002	100.296
MA-213-10	53.963	0.228	0.852	0.873	19.594	18.037	0.165	5.423	0.357	0.000	99.492
MA-213-11	53.829	0.092	1.405	0.630	17.633	21.624	0.124	3.871	0.343	0.003	99.554
MA-215-05	53.744	0.355	0.818	0.961	17.846	19.737	0.133	5.611	0.494	0.002	99.701

Sample	SiO2	TiO2	Al2O3	Cr2O3	MgO	CaO	MnO	FeO	Na2O	K2O	Total
MA-217-04	53.395	0.389	0.990	1.129	18.356	18.949	0.175	5.730	0.529	0.000	99.642
MA-217-05	53.311	0.342	0.883	1.159	17.783	20.171	0.126	5.090	0.477	0.004	99.346
MA-217-06	54.135	0.347	0.928	0.915	18.496	19.513	0.141	5.362	0.436	0.000	100.273
MA-221-03	54.143	0.287	0.680	0.918	18.440	18.895	0.190	5.524	0.431	0.000	99.508
MA-225-21	53.847	0.393	0.963	1.099	18.170	18.983	0.165	5.789	0.487	0.004	99.900
MA-225-22	53.969	0.303	0.812	1.093	17.970	19.651	0.151	5.099	0.473	0.000	99.521
MA-225-23	53.951	0.286	0.872	1.036	17.738	19.930	0.141	5.172	0.477	0.000	99.603
MA-225-24	53.788	0.175	0.930	0.720	17.700	21.065	0.139	4.733	0.231	0.008	99.489
MA-225-25	53.963	0.331	0.717	0.963	18.226	20.016	0.146	5.264	0.445	0.000	100.071
MA-225-26	53.456	0.231	1.828	0.941	16.805	22.716	0.111	3.957	0.339	0.005	100.389
MA-225-27	53.952	0.367	0.877	1.072	18.064	19.890	0.148	5.346	0.520	0.000	100.236
MA-225-28	53.620	0.306	0.693	0.895	17.997	19.690	0.155	5.421	0.428	0.000	99.205
MA-233-15	53.557	0.320	0.800	1.030	17.883	19.645	0.152	5.336	0.469	0.000	99.192
MA-233-16	53.666	0.330	0.844	1.046	18.316	19.231	0.135	5.334	0.460	0.003	99.365
MA-233-17	53.594	0.340	0.771	1.008	18.184	19.124	0.161	5.684	0.452	0.000	99.318
MA-233-18	53.027	0.392	1.067	1.071	17.760	19.496	0.170	5.765	0.477	0.000	99.225
MA-233-19	53.844	0.286	0.777	0.878	18.377	19.544	0.139	5.250	0.362	0.000	99.457
MA-233-20	53.207	0.423	1.048	1.159	17.684	19.749	0.161	5.540	0.523	0.000	99.494
MA-233-21	53.749	0.300	0.922	1.159	18.871	18.116	0.187	6.006	0.509	0.001	99.820
MA-233-22	53.414	0.210	0.936	0.608	17.649	21.221	0.141	5.199	0.235	0.003	99.616
MA-233-23	53.477	0.406	0.853	1.089	17.812	19.693	0.154	5.369	0.461	0.000	99.314
MA-233-24	53.066	0.380	1.048	1.108	17.543	19.434	0.146	5.620	0.491	0.000	98.836
MA-233-25	53.359	0.339	0.889	1.272	18.000	19.898	0.133	5.074	0.477	0.001	99.442
MA-237-02	54.081	0.331	0.875	1.102	18.138	19.416	0.146	5.451	0.504	0.000	100.044
MA-239-15	53.093	0.385	1.092	1.189	17.503	19.725	0.155	5.581	0.504	0.004	99.231
MA-239-16	53.600	0.365	1.000	1.269	17.708	20.173	0.148	5.325	0.512	0.001	100.101
MA-239-17	53.531	0.371	1.012	1.249	17.756	19.441	0.153	5.491	0.529	0.002	99.535
MA-239-18	53.639	0.334	0.919	1.104	18.386	19.163	0.144	5.576	0.490	0.000	99.755
MA-239-19	53.812	0.332	0.749	0.878	17.591	20.330	0.144	5.290	0.439	0.000	99.565
MA-239-20	53.888	0.300	0.712	1.013	17.891	19.886	0.161	5.337	0.442	0.000	99.630
MA-239-21	53.453	0.339	1.004	1.129	17.800	20.004	0.134	5.315	0.520	0.000	99.698
MA-241-03	52.344	0.355	2.334	0.778	15.702	24.027	0.090	3.844	0.410	0.003	99.887
MA-243-08	53.781	0.353	0.985	1.117	17.775	19.582	0.157	5.344	0.493	0.002	99.589
MA-243-09	53.621	0.344	0.994	1.169	17.862	19.988	0.154	5.450	0.517	0.000	100.099
MA-243-10	53.943	0.282	0.941	1.094	18.541	18.776	0.195	5.658	0.512	0.000	99.942
MA-243-11	53.860	0.244	0.762	0.981	18.242	19.374	0.152	5.501	0.461	0.001	99.578
MA-245-11	53.998	0.201	1.073	0.900	17.700	21.555	0.133	4.499	0.266	0.001	100.326
MA-245-12	53.548	0.330	0.880	1.034	17.707	20.138	0.160	5.435	0.487	0.001	99.720
MA-245-13	53.153	0.316	1.339	1.332	17.025	20.773	0.129	5.041	0.579	0.005	99.692
MA-245-14	53.523	0.389	1.028	1.013	17.494	20.044	0.181	5.751	0.492	0.001	99.916
MA-245-15	54.247	0.270	0.677	1.034	18.959	18.589	0.136	5.688	0.478	0.000	100.078

Sample	SiO2	TiO2	Al2O3	Cr2O3	MgO	CaO	MnO	FeO	Na2O	K2O	Total
MA-245-16	53.834	0.336	0.908	0.960	18.263	18.975	0.168	5.968	0.497	0.000	99.909
MA-245-17	53.495	0.372	0.995	1.087	17.710	20.000	0.154	5.335	0.477	0.001	99.626
MA-245-18	53.517	0.370	1.020	1.066	17.808	19.782	0.148	5.506	0.479	0.000	99.696
MA-245-19	53.444	0.384	1.200	1.240	16.895	21.222	0.118	5.078	0.525	0.000	100.106
MA-245-20	53.392	0.369	0.897	1.022	17.478	20.588	0.148	5.285	0.473	0.000	99.652
MA-245-21	53.263	0.368	1.039	1.057	17.832	19.868	0.162	5.320	0.509	0.002	99.420
MA-245-22	53.995	0.346	0.938	1.038	18.082	19.412	0.184	5.560	0.486	0.000	100.041
MA-245-23	53.513	0.333	0.755	0.962	17.573	20.456	0.138	5.061	0.424	0.001	99.216
MA-249-06	53.621	0.128	1.252	0.795	17.863	21.846	0.104	3.632	0.363	0.003	99.607
MA-255-03	54.116	0.295	0.836	1.103	19.290	18.001	0.158	5.744	0.468	0.001	100.012
MA-255-04	53.577	0.209	1.066	0.865	18.124	20.249	0.140	5.093	0.257	0.000	99.580
MA-263-06	53.726	0.359	0.739	0.919	18.298	19.606	0.164	5.532	0.443	0.000	99.786
MA-265-10	53.159	0.315	1.213	1.352	17.188	20.965	0.107	4.772	0.530	0.000	99.601
MA-265-11	53.641	0.355	0.837	0.891	18.175	19.656	0.147	5.484	0.462	0.000	99.648
MA-265-12	53.734	0.219	1.020	0.831	17.614	21.416	0.110	4.578	0.255	0.000	99.777
MA-265-13	53.500	0.179	1.083	0.900	17.746	21.482	0.137	4.568	0.265	0.000	99.860
MA-267-12	53.710	0.182	1.020	0.768	17.670	21.263	0.140	5.033	0.253	0.004	100.043
MA-267-13	54.058	0.242	0.925	0.857	19.014	18.500	0.168	5.602	0.397	0.000	99.763
MA-267-14	53.880	0.336	0.832	1.088	18.163	19.735	0.140	5.215	0.470	0.000	99.859
MA-267-15	53.690	0.210	1.035	0.862	17.835	21.556	0.133	4.601	0.263	0.000	100.185
MA-285-07	53.593	0.376	0.923	0.873	17.409	20.144	0.176	5.708	0.491	0.000	99.693
MA-285-08	53.935	0.226	0.858	0.531	18.304	20.606	0.145	5.146	0.220	0.000	99.971
MA-293-02	53.921	0.297	0.672	0.952	18.784	18.838	0.169	5.659	0.440	0.000	99.732
MA-293-03	53.826	0.343	0.802	0.977	17.831	20.165	0.162	5.370	0.449	0.000	99.925
MA-293-04	54.059	0.337	0.875	1.019	18.672	18.610	0.167	6.082	0.497	0.005	100.323
MA-293-05	53.593	0.316	0.883	1.179	18.049	19.727	0.162	5.189	0.469	0.003	99.570
MA-293-06	53.514	0.299	1.000	1.191	18.263	19.703	0.129	5.248	0.504	0.000	99.851
MA-293-07	53.317	0.435	1.034	1.169	17.349	20.327	0.135	5.461	0.480	0.000	99.707
MA-293-08	53.958	0.308	0.891	1.074	18.291	18.930	0.166	5.642	0.485	0.000	99.745
MA-297-03	53.731	0.333	0.846	1.025	17.766	20.439	0.158	5.192	0.441	0.005	99.936
MA-297-04	54.188	0.298	0.708	0.882	18.502	19.421	0.145	5.355	0.424	0.004	99.927
MA-297-05	53.755	0.340	0.728	0.975	17.944	20.273	0.153	5.129	0.453	0.000	99.750
MA-297-06	53.384	0.361	0.950	1.123	17.839	19.727	0.122	5.466	0.500	0.000	99.472
MA-297-07	53.885	0.290	0.811	0.935	18.358	19.109	0.168	5.430	0.461	0.004	99.451
MA-297-08	53.605	0.371	0.973	1.093	17.619	19.999	0.141	5.547	0.481	0.003	99.832
MA-297-09	52.781	0.376	1.578	1.116	17.098	20.273	0.120	5.541	0.523	0.007	99.413
MA-297-10	53.589	0.261	1.027	0.978	18.660	19.455	0.149	5.116	0.443	0.000	99.678
MA-299-02	52.672	0.218	2.392	0.871	17.890	19.634	0.174	5.524	0.259	0.000	99.634
MA-299-03	53.532	0.168	2.041	0.908	20.188	16.288	0.205	6.440	0.231	0.000	100.001
MA-301-03	53.833	0.325	0.843	0.957	17.832	20.052	0.127	5.342	0.489	0.001	99.801
MA-301-06	52.248	0.279	3.355	1.162	17.303	19.587	0.152	5.339	0.278	0.000	99.703

Sample	SiO2	TiO2	Al2O3	Cr2O3	MgO	CaO	MnO	FeO	Na2O	K2O	Total
MA-301-07	52.444	0.270	3.231	1.244	18.813	17.243	0.175	6.217	0.308	0.050	99.995
MA-301-08	53.659	0.346	0.877	1.138	18.059	19.444	0.148	5.398	0.466	0.000	99.535
MA-303-02	53.513	0.331	1.314	1.065	18.494	18.991	0.184	5.516	0.436	0.000	99.844
MA-303-04	52.937	0.193	1.487	0.986	17.052	23.409	0.094	3.114	0.309	0.000	99.581
MA-303-05	51.506	0.297	3.592	1.018	16.995	19.847	0.153	5.700	0.278	0.000	99.386
MA-303-06	52.683	0.228	2.280	0.634	18.088	19.606	0.154	5.610	0.226	0.000	99.509
MA-305-12	53.663	0.304	0.928	1.081	18.437	18.809	0.173	5.758	0.501	0.000	99.654
MA-305-13	53.806	0.320	0.842	1.055	17.850	19.815	0.146	5.468	0.469	0.007	99.778
MA-305-14	53.539	0.372	0.992	1.248	17.855	20.023	0.146	5.326	0.504	0.000	100.005
MA-305-15	53.577	0.317	0.872	1.138	17.803	20.059	0.159	5.203	0.470	0.003	99.601
MA-305-16	53.441	0.298	1.185	1.401	17.481	20.575	0.119	5.155	0.558	0.002	100.215
MA-317-05	51.606	0.284	3.321	1.138	17.239	19.880	0.155	5.157	0.275	0.006	99.061
MA-319-02	54.041	0.328	0.758	0.966	18.278	19.400	0.184	5.507	0.452	0.003	99.917
MA-319-03	53.860	0.317	0.874	1.120	17.904	20.022	0.130	5.252	0.477	0.004	99.960
MA-333-07	53.712	0.324	0.815	0.873	18.189	19.848	0.186	5.659	0.456	0.003	100.065
MA-353-03	53.800	0.273	0.908	1.060	18.125	20.328	0.137	4.965	0.478	0.002	100.076
MA-357-04	54.927	0.000	2.369	1.852	16.258	21.833	0.069	1.492	1.732	0.000	100.532
MA-359-05	53.931	0.309	0.922	1.063	18.991	18.229	0.162	5.913	0.489	0.003	100.012
MA-361-02	53.156	0.325	1.286	1.321	17.251	20.509	0.130	5.051	0.581	0.004	99.614
MA-367-15	53.739	0.256	1.260	0.827	17.936	21.418	0.135	4.441	0.263	0.000	100.275
MA-399-11	53.623	0.155	1.238	0.753	17.655	23.371	0.097	3.202	0.245	0.006	100.345
MA-399-12	53.786	0.302	0.805	0.930	18.662	19.393	0.157	5.278	0.439	0.003	99.755
MA-405-05	53.768	0.322	0.957	1.070	17.959	19.545	0.143	5.534	0.510	0.002	99.810
MA-407-08	51.514	0.286	3.934	1.451	17.055	19.922	0.145	5.245	0.276	0.000	99.828
MA-407-09	53.297	0.340	1.424	1.011	18.516	19.144	0.145	5.528	0.434	0.000	99.839
MA-407-10	53.975	0.282	0.735	1.061	18.152	20.551	0.145	4.921	0.434	0.001	100.257
MA-407-11	54.023	0.209	0.968	0.756	18.052	21.837	0.117	4.439	0.225	0.008	100.634
MA-407-12	53.803	0.174	1.345	0.642	17.257	23.188	0.097	3.469	0.346	0.000	100.321
MA-407-13	53.710	0.234	1.124	0.882	17.829	21.512	0.123	4.487	0.242	0.000	100.143
MA-407-14	53.524	0.176	1.017	0.895	17.880	21.283	0.138	4.353	0.250	0.000	99.516
MA-407-15	53.785	0.201	1.296	0.753	17.519	23.180	0.084	2.831	0.375	0.000	100.024
MA-407-16	53.530	0.338	1.014	1.082	18.315	19.401	0.146	5.673	0.442	0.000	99.941
MA-407-17	53.353	0.175	1.070	0.914	17.994	21.623	0.108	4.401	0.249	0.000	99.887
MA-407-18	53.571	0.302	0.953	1.068	18.100	20.172	0.134	5.268	0.471	0.000	100.039
MA-409-08	54.190	0.331	0.931	0.991	18.394	19.001	0.157	5.622	0.484	0.002	100.103
MA-409-09	53.408	0.339	0.900	0.987	17.934	20.062	0.133	5.438	0.489	0.000	99.690
MA-409-11	53.860	0.187	1.041	0.839	18.126	21.622	0.162	4.550	0.250	0.006	100.643
MA-409-12	53.584	0.292	0.686	0.915	18.361	19.545	0.149	5.509	0.453	0.001	99.495
MA-409-13	53.419	0.316	1.398	1.197	18.656	19.631	0.119	5.096	0.424	0.000	100.256
MA-409-14	51.825	0.305	3.731	1.323	17.748	19.750	0.145	5.401	0.280	0.000	100.508
MA-409-15	53.872	0.243	1.224	1.064	18.905	18.871	0.156	5.482	0.437	0.001	100.255

Sample	SiO2	TiO2	Al2O3	Cr2O3	MgO	CaO	MnO	FeO	Na2O	K2O	Total
MA-409-16	51.932	0.286	3.743	1.114	17.539	19.792	0.157	5.356	0.259	0.000	100.178
MA-409-17	53.621	0.219	1.135	1.034	18.001	20.870	0.148	4.813	0.278	0.000	100.119
MA-411-10	53.865	0.318	0.878	0.802	18.446	19.413	0.151	5.714	0.442	0.001	100.030
MA-411-11	53.700	0.336	0.759	0.986	18.104	19.852	0.137	5.411	0.470	0.000	99.755
MA-413-02	54.134	0.253	0.727	0.637	16.621	17.878	0.341	8.029	0.400	0.022	99.042
MA-413-03	53.766	0.187	0.996	0.798	18.151	21.164	0.144	4.985	0.245	0.002	100.438
MA-413-04	53.954	0.353	0.847	0.957	18.099	19.468	0.159	5.885	0.470	0.000	100.192
MA-413-05	53.243	0.316	1.368	1.350	18.149	19.615	0.149	5.223	0.444	0.004	99.861
MA-413-06	53.902	0.265	0.863	1.193	18.694	18.427	0.169	5.523	0.492	0.000	99.528
MA-413-07	53.391	0.342	1.083	1.230	17.234	20.848	0.135	4.988	0.497	0.008	99.756
MA-413-08	53.691	0.339	0.968	1.053	18.329	19.807	0.139	5.404	0.487	0.000	100.217
MA-415-01	52.665	0.236	2.923	0.929	18.227	19.728	0.170	5.363	0.266	0.000	100.507
MA-419-01	53.442	0.353	0.905	1.131	17.906	19.846	0.159	5.409	0.512	0.005	99.668
MA-419-02	53.648	0.363	1.043	1.132	17.861	19.947	0.149	5.278	0.497	0.008	99.926
MA-419-03	53.693	0.336	0.968	1.079	18.203	19.039	0.166	5.956	0.505	0.004	99.949
MA-419-04	54.454	0.036	0.930	0.519	16.651	23.953	0.164	3.836	0.416	0.000	100.959
MA-421-04	53.504	0.206	1.063	0.742	18.081	21.193	0.146	4.840	0.258	0.000	100.033
MA-423-45	54.161	0.287	0.697	0.904	19.463	18.291	0.163	5.886	0.411	0.003	100.266
MA-423-46	53.589	0.393	0.926	1.088	17.931	20.143	0.162	5.255	0.482	0.012	99.981
MA-423-47	53.411	0.338	0.947	0.996	17.957	19.906	0.154	5.574	0.507	0.000	99.790
MA-423-48	53.519	0.347	1.187	1.033	17.144	21.166	0.141	5.217	0.551	0.001	100.306
MA-423-49	53.533	0.142	1.429	0.612	17.391	22.864	0.111	3.359	0.357	0.001	99.799
MA-423-50	53.783	0.380	1.041	1.009	17.662	19.909	0.169	5.852	0.516	0.000	100.321
MA-423-51	54.320	0.368	0.858	1.165	18.462	20.120	0.138	5.275	0.454	0.003	101.163
MA-423-52	53.348	0.377	1.321	1.271	17.104	21.136	0.131	5.038	0.576	0.000	100.302
MA-423-53	53.928	0.269	0.869	0.908	18.912	18.565	0.187	5.963	0.456	0.000	100.057
MA-427-03	53.265	0.234	2.428	0.889	18.258	19.660	0.173	5.417	0.269	0.003	100.596
MA-429-19	53.438	0.243	1.175	1.049	17.647	21.385	0.130	4.881	0.267	0.000	100.215
MA-429-20	53.262	0.296	0.853	0.906	17.327	20.478	0.185	5.857	0.452	0.000	99.616
MA-429-21	53.515	0.370	0.904	0.998	17.662	20.536	0.139	5.367	0.473	0.000	99.964
MA-429-22	53.723	0.380	0.916	1.166	18.149	19.863	0.128	5.213	0.485	0.000	100.023
MA-429-23	53.736	0.280	0.843	1.010	17.864	19.821	0.158	5.400	0.494	0.000	99.606
MA-429-24	53.779	0.345	0.837	0.923	18.230	19.771	0.150	5.584	0.458	0.003	100.080
MA-429-26	53.914	0.116	1.577	0.999	18.368	21.771	0.112	3.311	0.415	0.003	100.586
MA-429-27	53.734	0.327	0.773	0.956	17.924	19.917	0.145	5.485	0.448	0.000	99.709
MA-429-28	53.636	0.346	0.936	1.217	17.964	19.852	0.146	5.310	0.499	0.000	99.906
MA-429-29	52.955	0.358	1.440	1.282	17.168	20.956	0.115	5.114	0.563	0.007	99.958
MA-429-30	53.666	0.309	0.860	1.031	18.394	19.810	0.141	5.418	0.504	0.002	100.135
MA-429-31	53.648	0.341	1.013	1.213	17.958	20.031	0.131	5.273	0.490	0.001	100.099
MA-429-32	53.788	0.360	0.933	1.036	18.505	19.077	0.178	5.860	0.470	0.000	100.207
MA-429-33	53.632	0.340	1.018	1.125	18.082	19.601	0.159	5.578	0.477	0.000	100.012

Sample	SiO2	TiO2	Al2O3	Cr2O3	MgO	CaO	MnO	FeO	Na2O	K2O	Total
MA-429-34	53.925	0.338	0.762	0.872	18.324	19.560	0.201	5.716	0.424	0.009	100.131
MA-429-35	53.718	0.335	0.904	1.088	18.415	19.823	0.145	5.301	0.457	0.000	100.186
MA-431-71	53.314	0.395	1.005	1.126	17.981	19.878	0.130	5.339	0.516	0.000	99.684
MA-431-72	53.597	0.296	0.730	0.990	17.924	20.558	0.139	5.101	0.447	0.002	99.784
MA-431-73	53.651	0.266	0.932	1.181	18.343	19.717	0.132	5.218	0.494	0.000	99.934
MA-431-74	53.683	0.372	0.905	0.924	18.045	19.600	0.165	5.891	0.520	0.000	100.105
MA-431-75	53.475	0.380	0.961	1.153	17.826	20.105	0.155	5.416	0.515	0.001	99.987
MA-431-76	53.888	0.292	0.724	1.021	18.619	19.669	0.140	5.255	0.461	0.005	100.074
MA-431-77	53.741	0.275	0.788	0.955	18.488	19.497	0.156	5.479	0.454	0.010	99.843
MA-431-78	54.064	0.311	0.800	0.955	18.434	19.326	0.189	5.359	0.465	0.000	99.903
MA-431-79	52.790	0.219	1.684	1.212	17.380	23.715	0.041	2.399	0.200	0.002	99.642
MA-431-80	53.945	0.312	0.916	1.173	18.354	19.608	0.171	5.306	0.482	0.000	100.267
MA-431-81	53.818	0.348	0.990	1.129	17.249	21.187	0.131	4.957	0.530	0.000	100.339
MA-431-82	54.281	0.302	0.738	0.806	18.799	19.020	0.174	6.035	0.446	0.000	100.601
MA-431-83	53.547	0.325	0.893	1.156	17.871	20.336	0.141	4.888	0.451	0.005	99.613
MA-431-84	53.887	0.367	0.798	0.931	18.034	19.577	0.146	5.839	0.458	0.003	100.040
MA-431-85	53.584	0.380	0.976	1.240	18.040	20.144	0.139	5.351	0.501	0.002	100.357
MA-431-86	53.171	0.186	2.339	1.035	16.871	21.415	0.106	4.258	0.824	0.000	100.205
MA-431-87	53.630	0.342	0.876	1.027	18.045	19.921	0.149	5.289	0.477	0.000	99.756
MA-431-88	53.225	0.169	1.734	0.659	16.808	23.234	0.112	4.179	0.355	0.000	100.475
MA-431-89	53.450	0.442	1.237	0.741	17.292	21.116	0.134	5.603	0.420	0.000	100.435
MA-433-54	53.696	0.299	0.780	0.967	18.309	19.814	0.143	5.249	0.452	0.000	99.709
MA-433-55	53.630	0.348	0.956	0.956	17.526	20.700	0.140	5.263	0.486	0.000	100.005
MA-433-57	53.769	0.355	0.946	1.056	18.028	19.618	0.147	5.652	0.486	0.000	100.057
MA-433-58	53.346	0.321	0.996	1.151	17.990	19.989	0.152	5.369	0.495	0.000	99.809
MA-433-59	53.586	0.319	0.941	1.147	18.067	19.943	0.141	5.352	0.467	0.000	99.963
MA-433-60	53.682	0.312	0.865	1.078	18.148	19.693	0.152	5.526	0.491	0.000	99.947
MA-433-61	53.808	0.349	0.805	1.006	18.515	19.947	0.158	5.246	0.455	0.000	100.289
MA-433-62	53.994	0.328	0.688	1.014	18.441	20.050	0.139	5.130	0.452	0.000	100.236
MA-433-63	53.703	0.361	0.950	1.006	18.001	20.064	0.142	5.523	0.498	0.000	100.248
MA-433-64	53.892	0.361	1.008	1.164	17.738	19.981	0.133	5.446	0.487	0.002	100.212
MA-433-65	53.683	0.317	0.879	1.134	18.013	19.960	0.136	5.261	0.466	0.000	99.849
MA-435-23	53.789	0.333	1.023	1.266	18.453	19.194	0.139	5.361	0.518	0.000	100.076
MA-439-07	53.477	0.310	1.220	1.437	17.659	20.420	0.142	4.980	0.545	0.000	100.190
MA-441-45	53.939	0.231	0.683	0.982	19.258	18.535	0.148	5.616	0.448	0.000	99.840
MA-441-46	54.020	0.364	0.804	0.994	18.597	18.942	0.165	5.744	0.451	0.001	100.082
MA-441-47	53.859	0.322	0.828	0.986	18.064	20.029	0.142	5.205	0.473	0.001	99.909
MA-441-48	53.738	0.290	0.815	1.015	18.039	19.670	0.138	5.320	0.471	0.000	99.496
MA-441-50	54.651	0.089	0.994	0.903	17.651	23.510	0.069	1.967	0.440	0.000	100.274
MA-443-16	54.012	0.288	0.759	0.933	18.465	19.451	0.123	5.489	0.446	0.000	99.966
MA-455-01	53.703	0.386	0.748	0.826	18.103	19.641	0.168	5.942	0.435	0.000	99.952

Sample	SiO2	TiO2	Al2O3	Cr2O3	MgO	CaO	MnO	FeO	Na2O	K2O	Total
MA-477-08	53.320	0.328	1.622	1.432	17.744	19.614	0.151	5.253	0.577	0.000	100.041
MA-487-01	53.216	0.333	1.137	1.241	17.344	20.453	0.138	5.075	0.547	0.003	99.487
MA-487-02	53.138	0.434	0.969	1.039	17.619	20.437	0.154	5.585	0.489	0.000	99.864
MA-487-03	53.710	0.310	0.891	1.298	18.303	19.495	0.142	5.226	0.509	0.007	99.891
MA-487-04	54.253	0.263	0.562	1.011	18.762	19.557	0.123	5.150	0.422	0.000	100.103
MA-487-05	54.134	0.234	0.927	0.900	19.327	18.518	0.170	5.532	0.372	0.000	100.114
MA-489-24	53.417	0.187	1.450	0.786	17.244	22.771	0.101	3.239	0.395	0.004	99.594
MA-491-05	53.269	0.363	0.986	1.101	17.999	19.654	0.153	5.709	0.500	0.001	99.735
MA-493-22	53.337	0.424	0.992	1.067	17.711	20.089	0.166	5.672	0.490	0.001	99.949
MA-493-23	53.976	0.292	0.738	0.898	18.307	19.189	0.155	5.476	0.443	0.003	99.477
MA-493-24	53.444	0.286	0.930	0.939	17.578	20.464	0.130	5.126	0.510	0.001	99.408
MA-493-25	52.723	0.413	1.368	1.153	16.604	20.718	0.116	5.387	0.567	0.000	99.049
MA-493-26	53.540	0.310	0.920	1.021	17.700	20.253	0.127	5.174	0.483	0.000	99.528
MA-493-27	53.874	0.215	0.979	0.539	17.722	21.356	0.126	4.754	0.206	0.000	99.771
MA-493-28	53.609	0.330	1.000	1.120	17.922	20.026	0.155	5.406	0.493	0.000	100.061
MA-493-29	53.892	0.224	1.553	0.599	17.009	22.997	0.095	3.264	0.379	0.002	100.014
MA-493-30	53.781	0.139	1.336	0.868	17.950	22.256	0.095	3.195	0.316	0.002	99.938
MA-493-31	51.671	0.177	3.224	1.264	16.798	21.228	0.118	5.008	0.176	0.005	99.669
MA-493-32	53.319	0.348	1.231	1.153	16.708	20.966	0.119	5.295	0.557	0.000	99.696
MA-493-33	54.361	0.265	1.069	0.923	19.503	17.819	0.173	5.787	0.406	0.002	100.308
MA-493-34	53.438	0.337	0.953	1.252	17.955	19.481	0.153	5.246	0.531	0.000	99.346
MA-493-35	53.746	0.243	1.192	0.748	17.782	21.409	0.110	4.579	0.228	0.000	100.037
MA-493-36	53.328	0.225	1.430	1.409	18.020	18.943	0.159	5.439	0.490	0.000	99.443
MA-495-21	53.675	0.339	0.955	1.114	18.240	19.208	0.155	5.376	0.463	0.000	99.525
MA-495-22	54.094	0.326	0.765	1.043	18.378	19.485	0.146	5.421	0.459	0.000	100.117
MA-495-24	53.973	0.149	1.167	0.687	17.520	22.254	0.076	3.224	0.486	0.000	99.536
MA-495-25	53.867	0.197	1.038	0.752	17.961	21.541	0.141	4.652	0.228	0.004	100.381
MA-495-26	53.533	0.380	0.926	0.966	17.956	19.717	0.154	5.700	0.468	0.000	99.800
MA-503-03	53.717	0.312	0.904	1.040	18.362	19.226	0.144	5.414	0.458	0.001	99.578
low Cr Diopside(Cr2O3<0.5)											
MA-061-06	53.530	0.245	1.136	0.499	17.698	20.489	0.163	5.746	0.222	0.000	99.728
MA-063-27	53.656	0.196	1.234	0.460	16.531	23.576	0.104	3.621	0.350	0.001	99.729
MA-121-01	52.340	0.089	2.065	0.012	12.412	23.101	0.424	8.923	0.690	0.002	100.058
MA-121-02	52.068	0.058	1.990	0.040	11.931	22.975	0.367	9.781	0.732	0.000	99.942
MA-121-03	52.103	0.077	2.089	0.009	12.158	23.060	0.334	9.260	0.750	0.000	99.840
MA-121-04	52.280	0.087	2.063	0.054	12.193	22.961	0.373	9.226	0.774	0.002	100.013
MA-121-05	53.321	0.047	1.292	0.011	13.204	23.647	0.391	8.054	0.574	0.000	100.541
MA-195-06	53.103	0.106	1.223	0.051	13.285	22.422	0.434	8.305	1.108	0.000	100.037
MA-201-01	54.293	0.047	0.577	0.325	15.611	23.466	0.175	4.729	0.947	0.006	100.176

Sample	SiO2	TiO2	Al2O3	Cr2O3	MgO	CaO	MnO	FeO	Na2O	K2O	Total
MA-213-09	54.052	0.143	0.883	0.429	17.900	22.483	0.104	3.314	0.380	0.001	99.689
MA-249-07	52.614	0.295	2.070	0.150	17.023	19.209	0.196	8.357	0.208	0.000	100.122
MA-249-08	50.710	0.444	2.600	0.061	14.292	20.537	0.301	9.834	0.228	0.003	99.010
MA-249-09	48.509	2.067	4.109	0.014	13.008	19.928	0.187	10.794	0.542	0.006	99.164
MA-249-10	48.539	2.107	3.977	0.068	12.990	19.587	0.229	11.111	0.564	0.005	99.177
MA-249-11	49.545	1.932	3.642	0.063	13.067	19.956	0.241	11.025	0.565	0.000	100.036
MA-249-12	52.327	0.268	1.679	0.011	13.271	22.968	0.347	8.423	0.838	0.000	100.132
MA-297-02	53.788	0.235	1.023	0.477	18.022	20.777	0.134	5.198	0.225	0.000	99.879
MA-301-04	53.890	0.212	1.321	0.367	17.350	23.038	0.090	3.382	0.375	0.003	100.028
MA-301-05	53.949	0.020	0.770	0.273	15.092	23.977	0.205	4.846	0.834	0.002	99.968
MA-303-03	53.099	0.172	1.383	0.228	16.847	23.060	0.126	3.988	0.327	0.000	99.230
MA-349-02	54.709	0.135	0.591	0.360	17.073	22.559	0.086	3.406	0.791	0.004	99.714
MA-353-04	54.400	0.030	1.291	0.351	13.707	20.745	0.109	6.486	2.686	0.000	99.805
MA-375-01	54.150	0.015	0.858	0.004	16.610	24.244	0.226	3.032	0.704	0.006	99.849
MA-385-02	53.918	0.050	1.400	0.000	17.087	25.519	0.034	1.679	0.268	0.000	99.955
MA-385-03	54.823	0.014	1.117	0.001	17.370	25.451	0.033	1.476	0.391	0.002	100.678
MA-495-23	54.019	0.053	0.867	0.370	15.446	24.050	0.275	4.525	0.478	0.000	100.083

Sample	SiO2	TiO2	Nb2O5	Al2O3	Cr2O3	V2O5	MgO	MnO	FeO*	NiO	ZnO	Total	Fe2O3	FeO	Total
Kimberlitic Ilmenites															
MA-001-03	0.068	56.154	0.084	0.576	1.297	0.271	14.503	0.293	27.009	0.132	0.002	100.389	2.425	24.827	100.632
MA-003-15	0.025	54.920	0.092	0.493	1.360	0.304	13.374	0.244	28.965	0.109	0.000	99.886	3.504	25.812	100.237
MA-003-16	0.015	54.894	0.103	0.424	1.162	0.351	13.418	0.286	29.067	0.094	0.009	99.823	3.688	25.748	100.193
MA-003-22	0.051	49.868	0.333	0.140	0.877	0.396	8.865	0.285	38.278	0.029	0.014	99.136	9.462	29.764	100.084
MA-003-23	0.053	53.539	0.026	0.566	0.146	0.256	11.475	0.277	32.843	0.077	0.004	99.262	5.566	27.834	99.820
MA-003-24	0.002	50.078	0.173	0.296	0.763	0.366	9.968	0.285	36.252	0.050	0.009	98.242	9.512	27.693	99.195
MA-005-39	0.025	50.342	0.128	0.285	1.512	0.223	9.012	0.301	37.331	0.060	0.040	99.259	8.888	29.333	100.150
MA-005-40	0.029	48.782	0.442	0.089	2.851	0.276	9.258	0.356	35.756	0.113	0.002	97.954	8.790	27.847	98.835
MA-005-42	0.023	48.344	0.216	0.138	0.767	0.348	7.203	0.275	41.422	0.036	0.037	98.809	11.468	31.103	99.958
MA-005-43	0.039	54.107	0.048	0.528	2.742	0.247	12.942	0.292	28.926	0.168	0.002	100.041	3.671	25.623	100.409
MA-005-44	0.039	54.136	0.158	0.309	0.611	0.217	12.139	0.294	31.949	0.051	0.016	99.919	5.223	27.249	100.442
MA-005-52	0.048	54.657	0.090	0.504	1.113	0.264	13.427	0.250	28.366	0.106	0.006	98.831	3.258	25.435	99.157
MA-005-54	0.029	54.972	0.061	0.538	1.420	0.263	14.124	0.233	27.249	0.167	0.019	99.075	3.202	24.367	99.396
MA-005-55	0.000	53.913	0.099	0.526	3.020	0.159	13.966	0.247	26.592	0.228	0.000	98.750	3.456	23.483	99.096
MA-005-56	0.059	54.179	0.103	0.556	2.397	0.273	13.851	0.270	27.253	0.125	0.014	99.080	3.343	24.245	99.415
MA-005-57	0.037	54.123	0.182	0.272	0.391	0.291	11.872	0.299	31.501	0.039	0.029	99.036	4.059	27.849	99.443
MA-005-58	0.030	53.804	0.164	0.284	0.547	0.285	11.994	0.298	31.512	0.077	0.021	99.016	4.704	27.279	99.487
MA-007-22	0.064	53.881	0.129	0.389	0.639	0.286	12.039	0.273	31.746	0.082	0.010	99.538	4.938	27.303	100.033
MA-011-28	0.022	53.436	0.152	0.433	0.646	0.263	11.132	0.302	32.834	0.138	0.022	99.380	4.969	28.363	99.878

Sample	SiO2	TiO2	Nb2O5	Al2O3	Cr2O3	V2O5	MgO	MnO	FeO*	NiO	ZnO	Total	Fe2O3	FeO	Total
MA-011-29	0.000	55.367	0.117	0.515	0.470	0.289	13.527	0.231	29.444	0.084	0.000	100.044	3.881	25.952	100.433
MA-011-30	0.045	50.811	0.183	0.302	1.611	0.353	10.174	0.323	35.574	0.089	0.000	99.465	8.464	27.958	100.313
MA-011-31	0.032	51.779	0.108	0.456	0.156	0.301	10.084	0.257	36.009	0.048	0.037	99.267	7.918	28.884	100.060
MA-011-32	0.016	48.371	0.141	0.365	0.326	0.404	7.866	0.226	41.113	0.040	0.024	98.892	12.348	30.002	100.129
MA-011-33	0.024	47.177	0.370	0.173	5.395	0.455	9.183	0.291	35.947	0.171	0.019	99.205	10.242	26.731	100.231
MA-011-35	0.015	48.733	0.183	0.148	0.774	0.414	7.420	0.303	41.312	0.030	0.038	99.370	11.348	31.101	100.507
MA-011-36	0.023	53.499	0.031	0.413	0.308	0.403	11.040	0.275	33.933	0.037	0.009	99.971	5.692	28.811	100.541
MA-011-37	0.015	54.013	0.137	0.508	1.519	0.270	12.761	0.254	29.803	0.110	0.012	99.402	4.171	26.050	99.820
MA-011-38	0.031	54.395	0.077	0.542	0.213	0.274	11.776	0.241	32.612	0.092	0.002	100.255	4.960	28.149	100.752
MA-011-39	0.018	50.254	0.055	0.521	0.185	0.297	8.856	0.228	38.582	0.043	0.022	99.061	9.906	29.668	100.054
MA-011-40	0.040	51.969	0.095	0.417	0.216	0.332	9.956	0.322	36.211	0.046	0.004	99.608	7.689	29.293	100.378
MA-011-41	0.043	52.477	0.031	0.497	0.154	0.386	10.604	0.300	35.025	0.053	0.014	99.584	7.117	28.621	100.297
MA-011-42	0.057	53.631	0.060	0.555	3.536	0.207	13.550	0.254	27.568	0.194	0.016	99.628	3.872	24.084	100.016
MA-011-48	0.071	52.399	0.119	0.390	0.278	0.305	11.830	0.323	32.839	0.035	0.009	98.598	7.194	26.365	99.319
MA-011-49	0.028	47.068	0.191	0.230	0.462	0.659	7.276	0.289	42.633	0.021	0.003	98.860	13.678	30.326	100.230
MA-011-50	0.054	49.762	0.123	0.535	0.742	0.382	9.762	0.224	37.300	0.064	0.031	98.979	10.516	27.838	100.033
MA-011-51	0.036	54.168	0.101	0.551	0.193	0.210	12.552	0.291	30.932	0.089	0.000	99.123	4.985	26.447	99.622
MA-011-52	0.016	46.403	0.081	0.263	0.355	0.449	6.812	0.229	43.270	0.016	0.015	97.909	14.587	30.144	99.371
MA-011-54	0.019	46.617	0.196	0.302	4.079	0.558	8.990	0.252	37.301	0.145	0.037	98.496	11.905	26.589	99.689
MA-011-55	0.022	54.801	0.129	0.432	1.072	0.304	13.068	0.265	29.259	0.091	0.018	99.461	3.325	26.267	99.794
MA-011-56	0.025	47.404	0.086	0.307	0.315	0.427	7.240	0.260	41.768	0.019	0.012	97.863	12.821	30.232	99.148
MA-011-58	0.022	46.824	0.007	0.282	0.344	0.405	6.781	0.270	42.965	0.012	0.008	97.920	13.959	30.404	99.319
MA-011-59	0.037	52.393	0.265	0.238	0.459	0.302	10.812	0.310	34.173	0.046	0.021	99.056	6.551	28.279	99.712
MA-011-60	0.014	50.626	0.106	0.735	0.596	0.494	10.709	0.215	35.401	0.087	0.005	98.988	9.283	27.048	99.918
MA-011-62	0.008	51.795	0.191	0.399	0.242	0.391	10.027	0.236	35.638	0.039	0.025	98.991	7.106	29.244	99.703
MA-011-63	0.026	45.999	0.068	0.274	0.429	0.434	6.457	0.255	44.237	0.029	0.021	98.229	15.440	30.344	99.776
MA-017-15	0.024	50.481	0.110	0.352	2.986	0.444	10.967	0.277	33.616	0.147	0.022	99.426	8.175	26.260	100.245
MA-017-16	0.040	52.380	0.180	0.398	1.623	0.246	11.261	0.259	33.026	0.114	0.004	99.531	6.373	27.291	100.170
MA-023-17	0.016	49.188	0.101	0.370	1.004	0.472	8.710	0.273	38.595	0.040	0.018	98.787	10.381	29.254	99.827
MA-023-18	0.030	44.852	0.287	0.567	0.582	0.764	8.174	0.169	42.153	0.058	0.030	97.666	16.766	27.067	99.346
MA-023-19	0.014	46.107	0.220	0.232	0.414	0.455	7.046	0.276	43.257	0.007	0.012	98.040	15.197	29.582	99.563
MA-023-20	0.012	53.035	0.307	0.270	1.055	0.294	11.949	0.292	31.906	0.069	0.000	99.189	5.622	26.847	99.752
MA-023-21	0.038	51.942	0.093	0.479	0.267	0.308	10.337	0.269	35.535	0.054	0.013	99.335	7.724	28.585	100.109
MA-023-22	0.056	51.171	0.148	0.441	0.192	0.299	9.590	0.282	37.045	0.036	0.000	99.260	8.601	29.305	100.122
MA-023-23	0.003	53.728	0.181	0.344	1.524	0.357	12.577	0.279	30.643	0.093	0.015	99.744	4.848	26.281	100.230
MA-023-24	0.009	51.992	0.086	0.453	0.234	0.391	10.126	0.228	35.714	0.028	0.018	99.279	7.287	29.157	100.009
MA-023-25	0.023	52.423	0.051	0.474	0.269	0.355	10.360	0.289	35.408	0.061	0.008	99.721	7.160	28.965	100.438
MA-023-26	0.040	54.543	0.033	0.586	0.508	0.297	12.499	0.292	31.077	0.095	0.011	99.981	4.608	26.931	100.443
MA-023-28	0.014	46.654	0.152	0.244	0.384	0.590	6.919	0.306	43.605	0.014	0.027	98.909	14.686	30.390	100.380
MA-023-29	0.021	49.330	0.183	0.275	0.420	0.423	8.803	0.218	39.199	0.026	0.000	98.898	10.981	29.319	99.998
MA-023-30	0.011	48.486	0.128	0.286	0.580	0.477	8.353	0.286	40.278	0.033	0.011	98.929	12.211	29.290	100.152

Sample	SiO2	TiO2	Nb2O5	Al2O3	Cr2O3	V2O5	MgO	MnO	FeO*	NiO	ZnO	Total	Fe2O3	FeO	Total
MA-023-31	0.031	53.476	0.062	0.498	0.353	0.348	11.406	0.286	33.163	0.047	0.021	99.691	5.667	28.063	100.259
MA-023-33	0.053	52.100	0.123	0.530	0.344	0.337	10.770	0.268	34.858	0.056	0.019	99.458	7.571	28.046	100.217
MA-023-34	0.054	53.349	0.103	0.359	1.153	0.217	11.503	0.273	32.476	0.096	0.020	99.603	5.410	27.608	100.145
MA-023-35	0.029	44.980	0.285	0.252	0.498	0.709	6.915	0.244	44.617	0.013	0.006	98.548	16.996	29.324	100.251
MA-023-36	0.031	52.299	0.119	0.337	0.208	0.292	9.994	0.281	35.960	0.024	0.027	99.572	7.161	29.516	100.290
MA-023-38	0.057	50.066	0.090	0.297	0.862	0.490	9.091	0.322	37.878	0.044	0.003	99.200	9.433	29.390	100.145
MA-023-40	0.038	53.179	0.048	0.539	0.393	0.418	11.584	0.291	32.586	0.059	0.031	99.166	5.588	27.557	99.726
MA-023-41	0.014	52.358	0.097	0.533	0.320	0.385	10.691	0.264	34.555	0.055	0.007	99.279	6.801	28.435	99.960
MA-023-43	0.038	50.396	0.115	0.306	0.455	0.433	9.222	0.278	37.903	0.037	0.028	99.211	9.453	29.397	100.158
MA-023-44	0.030	48.941	0.128	0.296	0.439	0.556	8.083	0.283	40.292	0.033	0.004	99.085	11.063	30.337	100.193
MA-023-45	0.011	49.092	0.150	0.275	0.557	0.467	9.200	0.259	38.690	0.050	0.004	98.755	11.490	28.351	99.906
MA-025-05	0.035	55.258	0.130	0.508	1.710	0.191	13.742	0.258	28.186	0.124	0.000	100.142	3.201	25.306	100.463
MA-025-06	0.013	51.913	0.266	0.183	0.333	0.372	9.567	0.301	36.545	0.033	0.027	99.553	7.091	30.165	100.263
MA-025-07	0.009	54.746	0.051	0.528	1.982	0.325	13.645	0.274	28.523	0.112	0.004	100.199	3.798	25.106	100.580
MA-027-29	0.047	52.829	0.158	0.273	0.868	0.335	11.005	0.290	33.648	0.057	0.015	99.525	5.954	28.290	100.122
MA-027-34	0.074	52.282	0.251	0.270	0.850	0.222	10.579	0.258	34.382	0.064	0.010	99.242	6.491	28.542	99.892
MA-027-42	0.052	55.292	0.176	0.623	1.850	0.177	13.937	0.282	27.711	0.170	0.020	100.290	3.067	24.951	100.597
MA-027-82	0.015	51.294	0.029	0.435	0.190	0.441	9.722	0.235	36.706	0.044	0.000	99.111	8.267	29.267	99.939
MA-027-83	0.031	54.232	0.217	0.305	1.225	0.276	13.020	0.288	29.759	0.082	0.022	99.457	4.306	25.884	99.888
MA-027-86	0.035	48.159	0.176	0.215	1.213	0.543	8.795	0.327	39.146	0.062	0.013	98.684	12.029	28.322	99.889
MA-031-12	0.026	46.242	0.431	0.054	2.445	0.420	7.294	0.312	41.103	0.060	0.000	98.387	13.037	29.372	99.693
MA-031-18	0.039	48.801	0.064	0.382	0.335	0.389	7.605	0.232	41.007	0.023	0.022	98.899	11.359	30.786	100.037
MA-031-19	0.043	49.989	0.075	0.353	0.767	0.282	8.389	0.258	39.017	0.048	0.018	99.239	9.734	30.258	100.214
MA-031-27	0.037	50.064	0.351	0.156	0.840	0.346	9.154	0.330	37.402	0.062	0.021	98.763	9.042	29.266	99.669
MA-031-29	0.020	52.786	0.177	0.248	0.401	0.281	10.918	0.293	34.179	0.058	0.011	99.372	6.524	28.309	100.026
MA-033-11	0.039	50.374	0.104	0.612	0.047	0.281	9.151	0.249	38.317	0.029	0.016	99.219	10.020	29.301	100.223
MA-033-13	0.029	44.376	0.214	0.224	0.519	0.706	6.220	0.237	46.090	0.015	0.015	98.645	17.954	29.935	100.444
MA-033-14	0.002	51.843	0.062	0.424	0.222	0.329	10.023	0.277	36.010	0.031	0.008	99.231	7.756	29.031	100.008
MA-033-16	0.028	52.326	0.326	0.156	0.580	0.360	10.185	0.336	35.002	0.040	0.027	99.366	6.163	29.457	99.983
MA-033-17	0.017	52.911	0.064	0.243	0.403	0.244	10.739	0.268	34.515	0.069	0.002	99.475	6.597	28.579	100.136
MA-033-19	0.039	53.950	0.194	0.383	1.363	0.241	12.710	0.270	30.425	0.100	0.005	99.680	4.775	26.128	100.158
MA-033-27	0.017	52.687	0.018	0.248	0.439	0.270	10.560	0.279	34.131	0.055	0.023	98.727	6.067	28.671	99.335
MA-033-28	0.008	48.756	0.182	0.246	0.439	0.518	8.432	0.304	39.667	0.018	0.011	98.581	11.290	29.508	99.712
MA-033-29	0.024	47.706	0.215	0.239	0.386	0.626	7.482	0.267	41.640	0.015	0.011	98.611	12.356	30.522	99.849
MA-033-30	0.033	47.965	0.171	0.256	0.542	0.498	7.822	0.282	40.769	0.039	0.019	98.396	12.118	29.865	99.610
MA-033-31	0.023	51.326	0.105	0.432	0.202	0.389	9.845	0.285	36.298	0.021	0.000	98.926	8.046	29.058	99.732
MA-033-33	0.000	49.160	0.210	0.098	0.707	0.386	8.408	0.280	38.696	0.038	0.014	97.997	9.966	29.729	98.996
MA-033-34	0.011	52.248	0.331	0.212	0.661	0.270	10.536	0.280	34.501	0.052	0.026	99.128	6.503	28.650	99.780
MA-033-35	0.042	53.119	0.114	0.221	0.450	0.328	10.279	0.293	34.765	0.056	0.007	99.674	5.535	29.785	100.229
MA-033-36	0.024	45.436	0.114	0.228	0.377	0.435	6.138	0.232	45.093	0.011	0.033	98.121	16.235	30.485	99.748
MA-033-37	0.037	52.160	0.070	0.474	0.296	0.396	10.643	0.238	34.614	0.049	0.007	98.984	6.917	28.390	99.677

Sample	SiO2	TiO2	Nb2O5	Al2O3	Cr2O3	V2O5	MgO	MnO	FeO*	NiO	ZnO	Total	Fe2O3	FeO	Total
MA-033-38	0.040	50.185	0.386	0.110	1.512	0.398	9.358	0.297	36.936	0.074	0.003	99.299	8.628	29.172	100.163
MA-033-39	0.036	50.744	0.103	0.415	0.207	0.388	9.833	0.290	36.900	0.047	0.013	98.976	9.306	28.526	99.908
MA-033-40	0.004	49.130	0.160	0.289	0.544	0.429	8.346	0.298	39.755	0.039	0.025	99.019	11.062	29.802	100.127
MA-033-42	0.020	49.821	0.375	0.135	1.007	0.429	9.134	0.312	37.747	0.072	0.042	99.094	9.488	29.210	100.045
MA-033-43	0.039	54.440	0.156	0.345	1.075	0.298	14.102	0.334	28.760	0.081	0.011	99.641	5.195	24.086	100.161
MA-033-45	0.034	43.913	0.231	0.222	0.604	0.691	6.103	0.297	45.573	0.017	0.006	97.691	17.671	29.673	99.461
MA-033-46	0.030	50.223	0.035	0.543	0.132	0.305	8.797	0.246	38.729	0.048	0.010	99.098	9.992	29.738	100.099
MA-033-47	0.037	54.483	0.134	0.327	0.773	0.222	12.556	0.306	30.793	0.100	0.019	99.750	4.509	26.736	100.202
MA-033-48	0.006	52.723	0.101	0.322	0.243	0.273	10.556	0.294	34.623	0.048	0.006	99.195	6.473	28.799	99.844
MA-033-49	0.025	52.427	0.296	0.187	0.690	0.354	10.815	0.299	34.261	0.037	0.025	99.416	6.490	28.421	100.066
MA-033-50	0.035	51.641	0.079	0.488	0.223	0.352	10.114	0.241	35.468	0.041	0.011	98.693	7.405	28.805	99.435
MA-033-51	0.052	47.682	0.108	0.261	0.431	0.459	7.555	0.268	41.398	0.025	0.011	98.250	12.652	30.014	99.518
MA-037-04	0.048	52.924	0.057	0.496	0.435	0.365	11.185	0.260	33.735	0.062	0.000	99.567	6.337	28.033	100.202
MA-039-14	0.034	49.956	0.020	0.508	0.144	0.277	9.166	0.228	38.499	0.037	0.000	98.868	10.754	28.823	99.946
MA-039-16	0.039	54.498	0.181	0.454	0.487	0.272	12.365	0.275	31.318	0.082	0.000	99.971	4.479	27.288	100.420
MA-039-17	0.026	55.300	0.165	0.531	1.814	0.309	13.935	0.221	27.676	0.120	0.008	100.105	2.699	25.248	100.375
MA-039-18	0.014	49.504	0.170	0.255	1.086	0.386	8.911	0.260	37.926	0.063	0.040	98.615	9.822	29.088	99.599
MA-039-33	0.068	51.803	0.083	0.533	0.118	0.239	10.282	0.272	35.885	0.049	0.015	99.347	8.236	28.474	100.172
MA-039-36	0.019	53.196	0.092	0.507	3.277	0.258	12.729	0.240	29.301	0.207	0.031	99.857	4.542	25.214	100.312
MA-043-14	0.008	49.956	0.374	0.228	1.111	0.447	11.320	0.213	35.063	0.046	0.028	98.794	10.532	25.586	99.849
MA-043-37	0.017	51.636	0.261	0.175	0.370	0.331	9.782	0.328	36.943	0.006	0.015	99.864	8.298	29.476	100.695
MA-053-04	0.000	48.745	0.272	0.153	1.581	0.557	8.640	0.331	38.526	0.051	0.014	98.870	10.348	29.215	99.907
MA-055-17	0.032	54.679	0.181	0.293	0.431	0.303	12.986	0.337	30.357	0.058	0.005	99.662	4.464	26.340	100.109
MA-055-18	0.020	55.703	0.104	0.535	0.885	0.255	14.223	0.274	27.771	0.108	0.002	99.880	3.189	24.902	100.199
MA-055-19	0.046	54.144	0.037	0.532	0.227	0.293	11.612	0.254	32.707	0.082	0.002	99.936	4.991	28.216	100.436
MA-055-20	0.012	52.853	0.214	0.237	0.388	0.269	10.633	0.312	34.724	0.038	0.023	99.703	6.497	28.878	100.354
MA-055-22	0.042	53.856	0.077	0.546	0.206	0.265	11.468	0.254	32.867	0.091	0.010	99.682	5.195	28.193	100.202
MA-055-23	0.017	54.205	0.416	0.223	0.399	0.358	11.853	0.308	32.202	0.023	0.000	100.004	4.310	28.323	100.436
MA-057-40	0.039	54.194	0.090	0.589	3.467	0.254	13.606	0.254	27.510	0.200	0.000	100.203	3.252	24.584	100.529
MA-057-41	0.013	52.385	0.273	0.187	0.447	0.439	10.211	0.340	35.148	0.025	0.018	99.486	6.242	29.531	100.111
MA-057-42	0.045	55.665	0.053	0.535	1.493	0.241	14.142	0.264	27.294	0.115	0.009	99.856	2.592	24.962	100.116
MA-057-43	0.052	56.276	0.095	0.575	1.097	0.306	14.354	0.272	27.378	0.130	0.000	100.535	2.337	25.275	100.769
MA-057-44	0.016	48.293	0.218	0.123	0.763	0.450	7.061	0.301	41.703	0.035	0.011	98.974	11.381	31.462	100.114
MA-057-46	0.033	55.464	0.121	0.709	1.034	0.218	14.421	0.282	27.702	0.143	0.018	100.145	3.832	24.253	100.529
MA-057-47	0.000	53.082	0.236	0.242	0.346	0.337	10.918	0.301	34.257	0.019	0.000	99.738	6.128	28.743	100.352
MA-057-48	0.027	53.563	0.172	0.207	0.419	0.322	11.739	0.327	33.015	0.051	0.027	99.869	6.051	27.571	100.475
MA-057-49	0.029	55.144	0.090	0.435	1.377	0.287	13.663	0.298	28.699	0.116	0.003	100.141	3.655	25.410	100.507
MA-057-50	0.038	55.273	0.095	0.529	0.851	0.323	13.410	0.278	29.444	0.101	0.000	100.342	3.730	26.087	100.716
MA-057-52	0.050	55.252	0.117	0.495	0.617	0.332	13.194	0.263	29.663	0.086	0.002	100.071	3.478	26.534	100.419
MA-057-53	0.032	46.121	0.320	0.122	1.369	0.427	6.546	0.291	43.366	0.040	0.027	98.661	14.286	30.511	100.092
MA-057-54	0.034	55.511	0.057	0.612	0.886	0.277	13.256	0.300	28.802	0.132	0.000	99.867	2.664	26.405	100.134

Sample	SiO2	TiO2	Nb2O5	Al2O3	Cr2O3	V2O5	MgO	MnO	FeO*	NiO	ZnO	Total	Fe2O3	FeO	Total
MA-057-55	0.051	53.939	0.042	0.960	2.899	0.315	14.137	0.214	26.870	0.188	0.005	99.620	3.729	23.515	99.994
MA-057-56	0.040	54.040	0.172	0.290	0.547	0.255	11.614	0.291	32.238	0.063	0.001	99.551	4.510	28.180	100.003
MA-057-58	0.025	53.556	0.088	0.488	3.413	0.291	13.127	0.264	28.653	0.208	0.008	100.121	4.195	24.878	100.541
MA-057-59	0.011	50.134	0.243	0.208	0.777	0.345	9.852	0.310	37.246	0.027	0.000	99.153	10.267	28.008	100.182
MA-057-60	0.020	56.027	0.128	0.452	0.922	0.292	14.253	0.285	27.591	0.073	0.009	100.052	2.612	25.240	100.314
MA-057-61	0.033	54.580	0.099	0.301	0.586	0.274	13.441	0.332	29.834	0.057	0.015	99.552	5.034	25.304	100.056
MA-057-62	0.032	48.440	0.230	0.132	0.788	0.384	8.833	0.287	39.674	0.064	0.032	98.896	12.604	28.332	100.159
MA-057-63	0.037	52.088	0.209	0.173	1.468	0.214	11.521	0.254	33.100	0.067	0.016	99.147	7.244	26.582	99.873
MA-057-64	0.054	53.184	0.124	0.610	2.998	0.352	12.820	0.209	29.660	0.122	0.000	100.133	4.727	25.406	100.607
MA-057-65	0.030	56.572	0.170	0.339	0.713	0.332	15.845	0.427	25.743	0.105	0.016	100.292	3.234	22.833	100.616
MA-057-66	0.014	51.146	0.234	0.204	0.769	0.326	11.091	0.272	35.524	0.070	0.003	99.653	9.842	26.668	100.639
MA-057-67	0.057	56.089	0.071	0.545	1.239	0.248	14.412	0.298	27.168	0.105	0.000	100.232	2.532	24.890	100.486
MA-057-68	0.029	53.263	0.126	0.540	2.930	0.246	12.202	0.268	30.013	0.184	0.030	99.831	4.196	26.238	100.251
MA-057-69	0.038	48.458	0.262	0.117	0.789	0.304	7.328	0.292	41.376	0.020	0.022	99.006	11.540	30.992	100.162
MA-057-71	0.029	43.889	0.314	0.147	2.538	0.474	5.928	0.247	44.870	0.043	0.011	98.490	16.831	29.725	100.176
MA-057-72	0.008	52.112	0.324	0.192	0.421	0.436	11.974	0.274	33.394	0.049	0.000	99.184	7.941	26.248	99.980
MA-057-74	0.049	54.672	0.203	0.310	0.618	0.261	12.335	0.283	31.226	0.056	0.007	100.020	4.111	27.527	100.432
MA-057-76	0.016	54.635	0.112	0.353	0.757	0.203	12.593	0.287	30.757	0.090	0.019	99.822	4.446	26.757	100.267
MA-057-77	0.042	49.155	0.205	0.157	0.788	0.339	8.351	0.252	39.707	0.040	0.015	99.051	10.986	29.822	100.152
MA-057-78	0.032	52.310	0.159	0.226	0.402	0.322	10.246	0.295	35.270	0.024	0.014	99.300	6.784	29.166	99.980
MA-057-86	0.050	54.050	0.129	0.290	0.504	0.253	12.143	0.254	31.712	0.047	0.014	99.446	4.959	27.250	99.943
MA-057-87	0.037	54.306	0.244	0.624	0.447	0.370	14.180	0.381	29.186	0.105	0.000	99.880	5.795	23.972	100.461
MA-057-88	0.030	54.600	0.079	0.436	1.149	0.199	13.014	0.307	29.353	0.114	0.004	99.285	3.816	25.920	99.667
MA-057-89	0.009	54.167	0.300	0.226	0.301	0.295	11.671	0.320	32.453	0.018	0.024	99.784	4.559	28.351	100.241
MA-057-91	0.024	54.843	0.070	0.544	2.355	0.217	14.173	0.253	27.409	0.177	0.003	100.068	3.700	24.079	100.439
MA-057-92	0.019	51.176	0.375	0.189	0.335	0.353	10.402	0.316	35.897	0.045	0.023	99.130	8.681	28.086	100.000
MA-057-93	0.031	54.818	0.075	0.453	1.204	0.302	13.545	0.265	28.761	0.104	0.002	99.560	3.754	25.383	99.936
MA-059-07	0.025	51.311	0.147	0.278	0.960	0.450	10.159	0.245	35.972	0.056	0.021	99.624	8.174	28.617	100.443
MA-059-08	0.028	51.460	0.114	0.287	1.037	0.369	9.965	0.292	35.590	0.061	0.018	99.221	7.449	28.887	99.967
MA-059-10	0.018	51.029	0.104	0.223	2.394	0.374	10.631	0.281	33.904	0.080	0.013	99.051	7.345	27.295	99.787
MA-059-12	0.039	53.087	0.099	0.429	0.570	0.444	11.196	0.268	33.339	0.051	0.007	99.529	5.583	28.316	100.088
MA-059-14	0.014	51.222	0.046	0.270	0.883	0.444	9.877	0.292	36.023	0.045	0.019	99.135	7.946	28.873	99.931
MA-059-33	0.050	52.523	0.064	0.354	0.503	0.255	10.388	0.315	35.162	0.070	0.007	99.691	7.005	28.859	100.393
MA-063-12	0.009	51.356	0.212	0.284	0.960	0.454	9.868	0.273	36.284	0.052	0.008	99.760	7.850	29.221	100.546
MA-065-09	0.034	55.158	0.194	0.389	0.735	0.311	12.994	0.249	29.704	0.080	0.020	99.868	3.182	26.841	100.187
MA-069-14	0.028	50.544	0.371	0.183	0.345	0.368	9.623	0.327	37.294	0.019	0.010	99.112	9.261	28.961	100.040
MA-069-16	0.030	54.044	0.141	0.514	0.257	0.291	12.258	0.230	31.731	0.088	0.040	99.624	5.202	27.051	100.145
MA-069-17	0.054	54.092	0.110	0.334	0.600	0.272	12.214	0.292	31.494	0.055	0.005	99.522	4.842	27.137	100.007
MA-069-19	0.015	52.828	0.285	0.197	0.363	0.332	12.264	0.413	32.306	0.052	0.016	99.071	6.987	26.019	99.771
MA-069-21	0.030	46.819	0.301	0.112	0.688	0.445	7.102	0.249	42.461	0.024	0.005	98.236	13.592	30.231	99.598
MA-069-30	0.030	53.187	0.224	0.375	1.358	0.230	11.674	0.282	32.049	0.104	0.007	99.520	5.306	27.275	100.052

Sample	SiO2	TiO2	Nb2O5	Al2O3	Cr2O3	V2O5	MgO	MnO	FeO*	NiO	ZnO	Total	Fe2O3	FeO	Total
MA-071-02	0.049	52.508	0.024	0.380	0.141	0.217	10.707	0.332	34.527	0.062	0.011	98.958	7.076	28.160	99.667
MA-071-03	0.036	55.176	0.090	0.572	1.418	0.296	14.382	0.241	27.352	0.098	0.018	99.679	3.456	24.242	100.025
MA-071-04	0.044	50.709	0.145	0.258	1.115	0.311	9.200	0.294	36.875	0.060	0.025	99.036	8.164	29.529	99.854
MA-079-13	0.015	52.961	0.101	0.486	0.441	0.423	11.344	0.290	33.347	0.065	0.029	99.502	6.138	27.824	100.117
MA-079-17	0.046	52.280	0.035	0.598	0.439	0.276	11.147	0.240	33.917	0.061	0.022	99.061	7.291	27.357	99.791
MA-079-18	0.027	53.604	0.057	0.577	1.285	0.369	12.991	0.260	29.948	0.097	0.020	99.235	5.103	25.356	99.746
MA-079-27	0.034	52.806	0.064	0.485	0.265	0.367	11.393	0.297	33.252	0.035	0.025	99.023	6.374	27.517	99.662
MA-079-28	0.041	52.915	0.154	0.322	1.011	0.266	11.363	0.267	32.969	0.086	0.017	99.411	5.964	27.603	100.009
MA-079-31	0.002	51.333	0.072	0.417	0.214	0.354	9.641	0.262	36.487	0.044	0.012	98.838	7.985	29.302	99.638
MA-079-33	0.012	51.285	0.129	0.235	0.860	0.440	10.232	0.313	34.907	0.030	0.040	98.483	7.284	28.352	99.213
MA-079-34	0.041	52.793	0.293	0.257	1.110	0.275	11.053	0.316	33.194	0.062	0.009	99.403	5.561	28.190	99.960
MA-079-35	0.035	53.382	0.270	0.297	1.231	0.293	12.005	0.295	31.485	0.083	0.005	99.381	4.957	27.025	99.878
MA-079-37	0.017	52.341	0.121	0.512	0.306	0.382	10.773	0.288	35.076	0.048	0.030	99.894	7.574	28.261	100.653
MA-079-38	0.021	49.242	0.246	0.321	0.478	0.569	9.333	0.268	38.391	0.032	0.012	98.913	10.963	28.527	100.011
MA-079-39	0.051	52.374	0.134	0.387	0.696	0.406	10.759	0.257	34.588	0.063	0.019	99.734	6.839	28.434	100.419
MA-079-40	0.019	51.193	0.265	0.218	5.123	0.256	12.843	0.325	28.805	0.233	0.002	99.282	6.109	23.308	99.894
MA-079-41	0.043	51.996	0.048	0.521	0.329	0.385	10.452	0.264	35.343	0.060	0.037	99.478	7.621	28.486	100.242
MA-079-42	0.054	52.444	0.072	0.538	0.362	0.335	10.897	0.244	34.731	0.052	0.017	99.746	7.368	28.101	100.484
MA-079-43	0.035	52.090	0.103	0.451	0.233	0.385	10.327	0.240	35.728	0.043	0.027	99.662	7.597	28.892	100.423
MA-079-46	0.033	51.897	0.302	0.182	0.572	0.345	10.445	0.322	35.070	0.044	0.026	99.238	7.218	28.575	99.961
MA-079-47	0.033	51.816	0.223	0.172	0.569	0.331	10.101	0.297	35.460	0.039	0.022	99.063	7.133	29.041	99.778
MA-079-48	0.023	51.705	0.094	0.426	0.216	0.428	10.281	0.289	35.493	0.032	0.005	98.992	7.602	28.652	99.754
MA-079-49	0.027	53.373	0.088	0.452	0.362	0.372	11.300	0.256	33.348	0.059	0.022	99.659	5.678	28.239	100.228
MA-079-50	0.014	51.999	0.250	0.210	0.292	0.373	10.446	0.334	35.228	0.032	0.006	99.184	7.313	28.647	99.917
MA-087-01	0.014	51.802	0.075	0.437	0.246	0.393	10.256	0.277	36.191	0.045	0.023	99.759	8.346	28.681	100.595
MA-087-04	0.017	52.275	0.289	0.222	0.667	0.273	10.440	0.312	34.630	0.043	0.006	99.174	6.473	28.806	99.823
MA-087-05	0.004	49.760	0.432	0.134	1.005	0.398	9.148	0.292	37.493	0.049	0.000	98.715	9.213	29.203	99.638
MA-087-06	0.018	49.666	0.393	0.146	0.834	0.429	9.249	0.321	37.993	0.049	0.010	99.108	10.079	28.924	100.118
MA-093-25	0.028	49.546	0.130	0.345	0.568	0.371	8.221	0.287	39.823	0.030	0.015	99.364	10.548	30.332	100.421
MA-093-27	0.067	52.453	0.020	0.870	0.437	0.319	11.333	0.223	33.626	0.112	0.018	99.478	7.109	27.229	100.190
MA-093-28	0.055	48.141	0.226	0.204	1.432	0.416	8.599	0.288	39.572	0.055	0.005	98.993	12.210	28.586	100.216
MA-093-65	0.031	50.004	0.132	0.372	0.629	0.264	8.623	0.294	38.290	0.054	0.023	98.716	9.406	29.827	99.658
MA-093-66	0.019	50.209	0.024	0.556	0.151	0.339	9.212	0.254	38.455	0.039	0.006	99.264	10.487	29.019	100.315
MA-093-69	0.048	52.222	0.000	0.090	0.025	0.096	2.345	0.561	44.123	0.000	0.025	99.535	9.355	29.490	99.915
MA-093-70	0.031	50.447	0.046	0.622	0.200	0.332	9.071	0.255	37.908	0.060	0.006	98.978	8.671	28.925	100.248
MA-093-71	0.030	51.094	0.088	0.419	0.788	0.238	9.632	0.296	36.727	0.063	0.004	99.379	9.909	30.193	100.051
MA-093-73	0.026	49.800	0.149	0.213	0.645	0.355	8.415	0.304	39.109	0.031	0.011	99.058	10.105	28.121	100.074
MA-097-28	0.006	50.604	0.018	0.593	0.165	0.298	9.868	0.245	37.213	0.046	0.006	99.062	8.539	27.576	99.814
MA-097-29	0.011	50.656	0.125	0.259	1.519	0.413	10.310	0.307	35.259	0.087	0.012	98.958	6.781	26.804	100.194
MA-115-02	0.020	52.539	0.130	0.416	1.409	0.198	11.538	0.255	32.906	0.101	0.003	99.515	6.300	23.376	100.055
MA-117-04	0.024	53.490	0.099	0.647	1.115	0.436	14.041	0.427	29.045	0.096	0.004	99.424	6.646	29.030	99.726

Sample	SiO2	TiO2	Nb2O5	Al2O3	Cr2O3	V2O5	MgO	MnO	FeO*	NiO	ZnO	Total	Fe2O3	FeO	Total
MA-119-14	0.028	51.859	0.094	0.261	0.875	0.449	10.183	0.263	35.010	0.038	0.000	99.060	7.000	27.671	100.322
MA-119-26	0.021	52.196	0.086	0.272	1.363	0.344	10.946	0.331	33.970	0.068	0.024	99.621	4.521	26.526	100.004
MA-119-29	0.056	53.942	0.046	0.548	1.140	0.340	12.473	0.271	30.594	0.124	0.017	99.551	7.721	26.784	100.488
MA-119-39	0.018	51.666	0.075	0.300	2.012	0.340	11.184	0.283	33.731	0.092	0.013	99.714	8.287	28.643	99.918
MA-127-09	0.046	51.071	0.169	0.393	0.721	0.325	9.936	0.257	36.100	0.070	0.000	99.088	5.825	26.895	100.048
MA-131-07	0.023	51.605	0.088	0.275	3.512	0.325	11.060	0.290	32.136	0.150	0.000	99.464	6.673	28.125	100.073
MA-137-29	0.026	52.655	0.103	0.520	0.355	0.315	10.954	0.269	34.129	0.050	0.028	99.404	9.532	29.979	100.217
MA-137-69	0.021	50.123	0.103	0.307	0.735	0.381	8.690	0.294	38.556	0.041	0.011	99.262	11.757	29.601	100.193
MA-145-04	0.020	49.053	0.174	0.285	0.334	0.301	8.352	0.255	40.180	0.032	0.029	99.015	10.294	28.753	100.090
MA-147-10	0.017	50.065	0.222	0.230	0.428	0.341	9.370	0.310	38.016	0.036	0.024	99.059	3.587	25.154	100.087
MA-147-11	0.024	55.466	0.138	0.685	0.473	0.238	14.011	0.218	28.382	0.088	0.005	99.728	5.126	26.386	100.043
MA-153-03	0.040	53.211	0.180	0.377	1.771	0.318	12.246	0.283	30.998	0.092	0.013	99.529	8.276	28.598	100.017
MA-153-09	0.060	51.671	0.079	0.572	0.126	0.194	10.090	0.272	36.045	0.065	0.014	99.188	10.304	29.263	99.934
MA-159-01	0.034	48.855	0.274	0.194	1.741	0.364	8.539	0.272	38.535	0.082	0.012	98.902	6.254	28.289	99.563
MA-159-02	0.023	52.489	0.189	0.263	0.531	0.341	10.867	0.272	33.916	0.033	0.012	98.936	5.394	27.539	99.905
MA-161-02	0.032	53.737	0.072	0.449	0.294	0.228	11.633	0.463	32.392	0.057	0.008	99.365	5.054	26.156	100.048
MA-171-13	0.030	52.895	0.189	0.470	2.163	0.407	12.292	0.251	30.704	0.124	0.017	99.542	3.911	27.880	100.434
MA-171-15	0.043	54.773	0.178	0.297	0.435	0.345	12.263	0.279	31.399	0.030	0.000	100.042	7.635	29.455	99.850
MA-171-16	0.015	51.473	0.294	0.190	0.417	0.308	9.706	0.314	36.325	0.037	0.006	99.085	8.187	27.953	100.035
MA-171-17	0.003	51.621	0.281	0.168	0.365	0.402	10.683	0.313	35.320	0.045	0.014	99.215	7.419	28.211	99.855
MA-171-18	0.032	52.076	0.237	0.187	0.346	0.304	10.677	0.312	34.887	0.036	0.018	99.112	8.064	29.252	99.527
MA-171-19	0.036	50.884	0.097	0.215	0.690	0.419	9.518	0.319	36.508	0.028	0.005	98.719	5.409	27.426	99.905
MA-187-17	0.039	53.717	0.132	0.578	0.186	0.239	11.852	0.251	32.293	0.061	0.015	99.363	6.818	27.598	100.454
MA-195-03	0.013	52.330	0.158	0.259	1.239	0.452	11.219	0.288	33.733	0.069	0.011	99.771	3.748	23.869	99.878
MA-199-03	0.021	53.578	0.105	0.580	3.495	0.308	13.771	0.204	27.242	0.184	0.014	99.502	10.485	27.235	99.791
MA-199-07	0.010	48.964	0.369	0.143	2.013	0.393	9.779	0.316	36.669	0.085	0.000	98.741	7.465	29.491	99.976
MA-199-09	0.045	51.540	0.322	0.171	0.417	0.370	9.827	0.309	36.208	0.014	0.005	99.228	9.598	28.855	99.774
MA-199-10	0.016	49.931	0.296	0.144	0.947	0.341	9.304	0.299	37.492	0.042	0.000	98.812	6.377	29.176	100.467
MA-199-11	0.003	52.793	0.318	0.212	0.309	0.351	10.575	0.316	34.914	0.032	0.005	99.828	6.781	28.292	100.136
MA-199-12	0.034	52.510	0.070	0.499	0.423	0.370	10.832	0.266	34.394	0.055	0.004	99.457	6.068	28.549	100.410
MA-199-13	0.022	52.963	0.265	0.243	0.827	0.225	10.868	0.296	34.009	0.070	0.014	99.802	6.332	27.990	100.106
MA-199-15	0.024	52.822	0.088	0.501	0.600	0.304	11.089	0.242	33.687	0.095	0.020	99.472	7.240	27.552	100.087
MA-199-16	0.029	51.884	0.064	0.474	1.460	0.231	10.772	0.246	34.066	0.114	0.022	99.362	7.646	29.053	99.548
MA-205-07	0.042	51.472	0.057	0.429	0.210	0.402	9.902	0.276	35.933	0.044	0.015	98.782	6.794	27.302	99.645
MA-205-08	0.016	50.948	0.132	0.247	2.788	0.398	10.596	0.299	33.416	0.113	0.011	98.964	6.036	26.444	99.675
MA-205-09	0.014	50.957	0.182	0.280	3.751	0.431	11.119	0.318	31.875	0.143	0.000	99.070	4.582	27.276	100.099
MA-205-10	0.031	54.261	0.059	0.385	0.659	0.288	12.166	0.330	31.399	0.062	0.000	99.640	6.648	27.552	99.959
MA-205-11	0.020	52.390	0.178	0.263	0.846	0.417	11.240	0.335	33.534	0.052	0.018	99.293	6.962	26.809	100.343
MA-209-12	0.016	52.423	0.275	0.147	1.109	0.450	11.775	0.305	33.074	0.064	0.007	99.645	7.861	29.314	99.731
MA-209-13	0.017	51.012	0.197	0.232	0.679	0.454	9.647	0.274	36.387	0.029	0.015	98.943	6.942	28.304	100.377
MA-243-07	0.008	51.971	0.169	0.348	1.181	0.453	10.660	0.274	34.550	0.068	0.000	99.682	5.590	28.022	100.059

Sample	SiO2	TiO2	Nb2O5	Al2O3	Cr2O3	V2O5	MgO	MnO	FeO*	NiO	ZnO	Total	Fe2O3	FeO	Total
MA-243-12	0.047	53.260	0.173	0.328	0.975	0.216	11.108	0.262	33.331	0.084	0.020	99.804	5.569	28.320	100.362
MA-245-09	0.030	53.742	0.205	0.284	0.770	0.290	14.048	0.371	29.759	0.048	0.004	99.551	6.862	23.584	100.239
MA-249-21	0.043	53.859	0.105	0.282	0.638	0.270	11.747	0.294	32.603	0.049	0.029	99.919	5.426	27.721	100.463
MA-267-10	0.038	54.433	0.151	0.167	0.304	0.340	11.543	0.357	32.939	0.025	0.017	100.314	4.684	28.725	100.783
MA-285-05	0.029	55.449	0.193	0.410	0.836	0.281	13.329	0.254	29.118	0.088	0.002	99.989	2.961	26.454	100.286
MA-285-06	0.020	53.563	0.261	0.160	0.289	0.408	11.104	0.299	33.433	0.015	0.000	99.552	4.912	29.013	100.044
MA-295-03	0.020	50.496	0.290	0.177	0.455	0.297	9.110	0.276	38.021	0.018	0.017	99.177	9.282	29.669	100.107
MA-295-04	0.044	49.834	0.180	0.261	0.568	0.386	9.036	0.253	38.834	0.046	0.024	99.466	10.655	29.247	100.534
MA-367-12	0.032	51.790	0.139	0.243	0.759	0.478	10.051	0.267	36.051	0.049	0.005	99.864	7.521	29.283	100.618
MA-367-13	0.005	42.722	0.739	0.094	3.572	0.694	6.707	0.302	43.646	0.064	0.024	98.569	17.412	27.979	100.314
MA-367-14	0.022	51.449	0.175	0.307	1.021	0.467	10.183	0.296	35.895	0.063	0.000	99.878	7.982	28.712	100.678
MA-367-18	0.002	55.141	0.046	0.019	0.015	0.003	5.529	11.852	28.009	0.006	0.000	100.622	0.255	27.780	100.648
MA-367-19	0.046	51.769	0.184	0.323	0.928	0.379	10.489	0.264	34.999	0.078	0.018	99.477	7.382	28.356	100.217
MA-399-10	0.024	53.492	0.087	0.693	0.242	0.246	12.681	0.236	32.049	0.116	0.016	99.882	7.109	25.652	100.594
MA-403-04	0.043	50.662	0.135	0.320	0.702	0.375	9.534	0.235	37.085	0.058	0.016	99.165	8.929	29.050	100.060
MA-403-05	0.008	53.761	0.250	0.259	0.464	0.427	11.363	0.293	33.379	0.039	0.012	100.255	5.194	28.705	100.775
MA-403-06	0.017	52.742	0.118	0.564	0.141	0.280	11.778	0.301	33.508	0.082	0.017	99.548	7.642	26.631	100.314
MA-403-10	0.020	52.558	0.106	0.569	0.099	0.331	11.834	0.331	33.921	0.081	0.018	99.868	8.351	26.407	100.705
MA-403-12	0.079	53.925	0.184	0.293	0.441	0.284	11.801	0.290	32.575	0.037	0.001	99.910	5.224	27.875	100.433
MA-407-07	0.036	52.133	0.232	0.203	0.414	0.318	10.415	0.328	35.715	0.014	0.024	99.832	7.740	28.751	100.607
MA-409-18	0.037	51.953	0.192	0.247	1.162	0.385	10.354	0.314	34.150	0.055	0.015	98.864	6.008	28.744	99.466
MA-411-09	0.041	53.585	0.047	0.600	0.532	0.359	13.120	0.292	30.874	0.102	0.026	99.578	6.465	25.057	100.226
MA-417-08	0.020	53.875	0.082	0.265	0.770	0.274	11.546	0.287	32.748	0.069	0.013	99.949	5.222	28.049	100.472
MA-417-09	0.026	54.230	0.173	0.307	0.665	0.335	12.068	0.291	31.730	0.052	0.014	99.891	4.533	27.651	100.345
MA-417-10	0.036	52.439	0.268	0.228	0.422	0.333	10.608	0.287	34.783	0.041	0.000	99.445	6.670	28.781	100.113
MA-417-11	0.019	55.065	0.049	0.486	1.038	0.224	13.328	0.278	29.264	0.129	0.000	99.880	3.860	25.791	100.267
MA-417-12	0.027	56.070	0.082	0.650	1.166	0.192	14.650	0.295	26.920	0.134	0.009	100.195	2.908	24.303	100.486
MA-417-14	0.015	53.474	0.252	0.247	0.576	0.338	11.597	0.261	32.713	0.052	0.005	99.530	5.320	27.926	100.063
MA-417-15	0.031	54.917	0.082	0.501	0.754	0.305	13.354	0.336	29.260	0.105	0.024	99.669	3.920	25.732	100.062
MA-421-03	0.039	55.126	0.121	0.319	0.603	0.319	12.892	0.284	30.343	0.050	0.023	100.119	3.800	26.924	100.500
MA-423-36	0.035	53.674	0.078	0.600	2.847	0.394	13.502	0.234	28.732	0.151	0.001	100.248	4.624	24.571	100.711
MA-423-37	0.019	53.516	0.046	0.510	3.102	0.231	11.872	0.255	30.255	0.157	0.020	99.983	3.641	26.979	100.348
MA-423-38	0.026	52.291	0.293	0.171	0.691	0.351	10.491	0.335	34.952	0.039	0.000	99.640	6.778	28.853	100.319
MA-423-39	0.000	52.958	0.000	0.488	0.334	0.362	11.206	0.283	33.725	0.043	0.017	99.416	6.493	27.882	100.067
MA-423-40	0.013	53.569	0.229	0.407	1.377	0.251	12.155	0.257	31.272	0.089	0.008	99.627	4.949	26.818	100.123
MA-423-41	0.024	53.701	0.179	0.260	0.551	0.307	11.766	0.296	32.618	0.047	0.018	99.767	5.499	27.670	100.318
MA-423-42	0.010	53.954	0.157	0.391	0.767	0.237	12.237	0.266	31.662	0.096	0.022	99.799	5.307	26.887	100.331
MA-423-43	0.041	52.385	0.148	0.364	0.172	0.369	10.674	0.286	34.821	0.038	0.014	99.312	6.981	28.540	100.011
MA-423-56	0.034	55.599	0.071	0.513	1.575	0.273	14.048	0.302	27.553	0.127	0.028	100.123	2.771	25.060	100.401
MA-423-57	0.049	49.249	0.095	0.233	1.870	0.351	8.341	0.255	38.714	0.043	0.039	99.239	9.901	29.805	100.231
MA-429-15	0.040	55.061	0.148	0.439	1.063	0.324	13.513	0.227	29.006	0.089	0.015	99.925	3.536	25.824	100.279

Sample	SiO2	TiO2	Nb2O5	Al2O3	Cr2O3	V2O5	MgO	MnO	FeO*	NiO	ZnO	Total	Fe2O3	FeO	Total
MA-429-16	0.036	51.051	0.110	0.423	0.248	0.410	9.564	0.271	37.642	0.031	0.000	99.786	9.193	29.370	100.707
MA-429-18	0.029	55.726	0.071	0.546	0.631	0.248	14.354	0.368	28.027	0.102	0.015	100.117	3.862	24.552	100.504
MA-431-53	0.019	54.342	0.161	0.313	0.628	0.260	12.536	0.312	31.191	0.067	0.000	99.829	4.930	26.755	100.323
MA-431-56	0.033	54.630	0.111	0.614	1.743	0.310	13.560	0.216	28.736	0.116	0.007	100.076	3.846	25.275	100.461
MA-431-58	0.038	55.768	0.201	0.467	1.217	0.282	14.566	0.243	27.083	0.100	0.000	99.965	2.805	24.559	100.246
MA-431-60	0.023	54.110	0.106	0.273	0.773	0.261	12.102	0.285	31.577	0.073	0.014	99.597	4.780	27.276	100.076
MA-431-61	0.015	47.238	0.199	0.217	2.323	0.514	8.527	0.312	39.628	0.085	0.009	99.067	13.008	27.923	100.370
MA-431-63	0.030	52.221	0.117	0.558	0.359	0.417	10.943	0.282	34.258	0.037	0.000	99.222	7.000	27.959	99.923
MA-431-67	0.036	49.732	0.057	0.456	0.143	0.370	8.356	0.225	39.716	0.050	0.007	99.148	10.533	30.238	100.203
MA-431-93	0.058	55.089	0.148	0.591	1.973	0.268	14.224	0.251	27.327	0.165	0.019	100.113	3.236	24.415	100.437
MA-431-95	0.044	51.776	0.168	0.208	0.269	0.420	9.416	0.317	37.237	0.026	0.021	99.902	7.694	30.313	100.673
MA-433-43	0.026	55.419	0.122	0.671	0.544	0.352	13.695	0.245	28.698	0.138	0.017	99.927	3.271	25.754	100.255
MA-433-44	0.022	54.459	0.188	0.349	0.474	0.333	12.797	0.260	30.876	0.076	0.026	99.860	4.792	26.564	100.340
MA-433-45	0.011	49.692	0.141	0.247	1.846	0.316	9.531	0.301	37.327	0.061	0.002	99.475	10.365	28.001	100.513
MA-433-46	0.013	52.521	0.263	0.199	0.675	0.337	10.971	0.325	33.820	0.061	0.039	99.224	6.369	28.089	99.862
MA-435-18	0.029	52.034	0.194	0.513	0.640	0.357	9.887	0.259	35.612	0.034	0.011	99.570	6.596	29.677	100.231
MA-435-19	0.026	53.114	0.153	0.634	0.212	0.303	13.141	0.338	31.618	0.106	0.002	99.647	7.828	24.575	100.431
MA-439-08	0.098	51.938	0.067	0.556	0.192	0.330	11.011	0.231	35.469	0.078	0.021	99.991	8.893	27.467	100.882
MA-439-09	0.039	51.006	0.062	0.442	0.210	0.302	9.581	0.274	37.525	0.044	0.005	99.490	9.407	29.060	100.433
MA-439-11	0.057	54.804	0.159	0.430	0.548	0.238	12.989	0.230	30.377	0.091	0.032	99.955	4.416	26.404	100.397
MA-441-38	0.036	48.236	0.082	0.358	0.482	0.397	7.854	0.259	41.167	0.049	0.009	98.929	12.608	29.822	100.192
MA-441-39	0.032	50.692	0.377	0.165	0.795	0.394	9.624	0.322	36.732	0.037	0.011	99.181	8.446	29.132	100.027
MA-441-40	0.042	51.963	0.110	0.538	0.141	0.276	9.899	0.257	35.784	0.045	0.011	99.066	7.117	29.380	99.779
MA-441-41	0.039	54.825	0.137	0.534	2.204	0.260	14.166	0.251	27.257	0.152	0.031	99.856	3.358	24.235	100.192
MA-441-42	0.055	51.898	0.086	0.343	0.940	0.446	10.562	0.260	34.527	0.067	0.014	99.198	6.841	28.371	99.883
MA-441-43	0.061	52.998	0.046	0.658	0.186	0.307	11.526	0.246	33.645	0.078	0.017	99.768	6.954	27.388	100.465
MA-441-52	0.014	54.573	0.117	0.318	0.936	0.239	13.372	0.314	29.867	0.085	0.035	99.870	5.035	25.336	100.375
MA-441-53	0.033	50.608	0.173	0.266	0.373	0.267	9.056	0.240	38.111	0.040	0.008	99.175	9.313	29.731	100.108
MA-441-54	0.038	54.875	0.181	0.335	0.515	0.322	12.435	0.262	30.958	0.052	0.008	99.981	3.716	27.615	100.353
MA-441-55	0.005	49.574	0.296	0.149	0.804	0.398	8.557	0.301	39.020	0.045	0.027	99.176	10.120	29.914	100.190
MA-441-56	0.009	51.238	0.385	0.197	0.630	0.440	9.550	0.300	36.912	0.020	0.019	99.700	7.859	29.840	100.487
MA-443-10	0.029	54.623	0.206	0.328	0.485	0.245	13.121	0.319	30.633	0.065	0.021	100.075	5.173	25.978	100.593
MA-443-11	0.241	49.771	0.000	0.696	0.165	0.309	8.697	0.265	38.374	0.061	0.038	98.617	9.668	29.674	99.586
MA-443-17	0.028	50.337	0.166	0.298	1.328	0.478	10.280	0.297	35.956	0.083	0.000	99.251	9.360	27.534	100.189
MA-443-23	0.025	47.678	0.155	0.390	0.327	0.433	7.361	0.213	41.893	0.022	0.013	98.510	12.783	30.390	99.791
MA-443-27	0.040	54.077	0.126	0.589	2.581	0.397	13.658	0.261	28.290	0.120	0.013	100.152	3.978	24.710	100.551
MA-443-28	0.032	47.840	0.053	0.366	0.311	0.428	7.657	0.221	42.079	0.025	0.008	99.020	13.544	29.892	100.377
MA-443-29	0.010	47.394	0.239	0.128	0.854	0.420	6.693	0.288	43.090	0.041	0.020	99.177	13.128	31.277	100.492
MA-467-08	0.052	53.273	0.033	0.559	1.037	0.313	12.054	0.232	32.092	0.116	0.002	99.763	6.026	26.670	100.367
MA-467-09	0.021	56.361	0.065	0.032	0.069	0.006	7.669	13.827	22.487	0.006	0.014	100.557	0.000	22.487	100.557
MA-467-11	0.017	53.652	0.055	0.503	0.734	0.358	11.800	0.227	32.050	0.078	0.000	99.474	4.991	27.559	99.974

Sample	SiO2	TiO2	Nb2O5	Al2O3	Cr2O3	V2O5	MgO	MnO	FeO*	NiO	ZnO	Total	Fe2O3	FeO	Total
MA-467-12	0.021	47.928	0.055	0.851	0.319	0.246	7.834	0.211	41.037	0.101	0.015	98.618	13.057	29.288	99.926
MA-467-16	0.034	44.439	0.031	0.948	0.509	0.287	6.555	0.206	45.533	0.080	0.038	98.660	18.942	28.489	100.558
MA-477-07	0.019	50.068	0.154	0.211	0.778	0.422	8.841	0.299	38.063	0.063	0.015	98.933	9.241	29.748	99.859
MA-479-06	0.027	52.720	0.086	0.388	0.287	0.302	10.426	0.296	35.076	0.056	0.008	99.672	6.674	29.071	100.341
MA-489-22	0.015	54.091	0.086	0.560	0.165	0.268	12.112	0.282	32.546	0.080	0.010	100.215	5.918	27.221	100.808
MA-489-23	0.027	55.790	0.126	0.705	1.065	0.292	14.588	0.307	26.662	0.140	0.000	99.702	2.561	24.358	99.959
MA-489-27	0.036	54.260	0.203	0.284	0.507	0.319	11.904	0.307	32.299	0.055	0.015	100.189	4.811	27.970	100.671
MA-489-28	0.043	53.838	0.162	0.594	3.738	0.298	13.584	0.227	27.622	0.224	0.002	100.332	3.517	24.457	100.684
MA-491-02	0.112	55.891	0.137	0.530	1.353	0.252	14.459	0.252	26.626	0.149	0.000	99.761	2.056	24.776	99.967
MA-493-20	0.010	44.438	0.272	0.214	0.451	0.653	6.420	0.272	45.229	0.017	0.018	97.994	17.424	29.550	99.740
MA-495-20	0.010	55.002	0.097	0.461	1.556	0.304	14.174	0.287	27.522	0.118	0.012	99.543	3.486	24.385	99.892
MA-505-03	0.022	51.668	0.166	0.325	1.193	0.494	10.551	0.248	34.639	0.099	0.027	99.432	7.071	28.277	100.140
MA-507-03	0.021	42.027	0.000	1.048	0.126	0.236	5.477	0.195	48.171	0.045	0.002	97.348	22.208	28.188	99.573
MA-515-06	0.024	56.254	0.110	0.456	0.947	0.359	14.346	0.254	27.416	0.080	0.023	100.269	2.260	25.382	100.495
MA-515-07	0.047	54.798	0.146	0.453	1.162	0.303	13.216	0.286	29.117	0.090	0.026	99.644	3.442	26.020	99.989
Crustal Ilmenites															
MA-003-17	0.092	52.751	0.028	0.082	0.015	0.080	1.821	0.701	44.216	0.004	0.030	99.820	0.554	43.718	99.875
MA-005-38	0.007	52.479	0.024	0.041	0.003	0.000	0.588	0.903	45.934	0.000	0.015	99.994	0.760	45.250	100.070
MA-005-41	0.027	50.565	0.033	0.019	0.078	0.083	0.158	3.736	45.125	0.000	0.000	99.824	3.913	41.604	100.216
MA-005-45	0.040	49.845	0.004	0.000	0.035	0.040	0.256	3.796	45.524	0.021	0.021	99.582	5.474	40.599	100.130
MA-005-53	0.017	50.307	0.000	0.049	0.088	0.071	0.303	3.036	45.240	0.012	0.001	99.124	3.886	41.744	99.513
MA-005-59	0.032	50.154	0.024	0.002	0.077	0.059	0.181	4.146	44.705	0.017	0.017	99.414	4.445	40.705	99.859
MA-005-61	0.030	50.427	0.006	0.000	0.109	0.091	0.226	3.800	44.330	0.011	0.007	99.037	3.407	41.264	99.378
MA-011-21	0.022	52.265	0.052	0.072	0.009	0.000	1.580	0.683	44.902	0.005	0.037	99.627	1.517	43.537	99.779
MA-011-53	0.061	50.395	0.000	0.022	0.059	0.182	3.449	0.241	44.653	0.027	0.000	99.089	5.991	39.262	99.689
MA-011-61	0.011	46.465	0.000	0.044	0.062	0.273	3.016	0.233	47.990	0.005	0.000	98.099	12.644	36.613	99.366
MA-017-06	0.031	52.344	0.015	0.000	0.027	0.090	1.460	0.802	44.907	0.000	0.044	99.720	1.216	43.813	99.842
MA-017-09	0.013	52.632	0.015	0.066	0.000	0.050	1.621	0.661	44.626	0.001	0.017	99.702	0.845	43.866	99.787
MA-017-10	0.009	51.440	0.039	0.058	0.000	0.019	0.392	0.902	46.919	0.002	0.027	99.807	2.463	44.702	100.054
MA-017-17	0.019	51.898	0.032	0.050	0.041	0.045	1.204	0.771	45.272	0.009	0.025	99.366	1.591	43.841	99.525
MA-023-27	0.024	52.181	0.028	0.063	0.044	0.173	1.697	0.606	44.994	0.006	0.022	99.838	1.557	43.593	99.994
MA-027-15	0.011	51.275	0.000	0.047	0.022	0.228	2.482	0.577	44.907	0.005	0.003	99.557	3.822	41.468	99.940
MA-027-22	0.021	51.150	0.000	0.070	0.078	0.154	1.501	0.717	45.562	0.005	0.000	99.259	3.004	42.859	99.559
MA-027-31	0.021	52.688	0.000	0.098	0.015	0.097	1.975	0.617	44.326	0.000	0.004	99.841	1.018	43.410	99.943
MA-027-32	0.035	52.270	0.020	0.082	0.018	0.168	1.836	0.625	45.018	0.013	0.037	100.122	1.817	43.383	100.304
MA-027-33	0.047	51.748	0.000	0.092	0.048	0.262	3.236	0.507	43.438	0.001	0.023	99.402	3.039	40.703	99.707
MA-027-36	0.020	50.916	0.067	0.031	0.024	0.115	1.118	0.588	46.486	0.020	0.040	99.425	3.405	43.422	99.766
MA-027-39	0.031	52.425	0.022	0.105	0.030	0.078	3.089	0.505	43.966	0.000	0.011	100.262	2.961	41.301	100.559
MA-027-40	0.028	52.095	0.007	0.048	0.006	0.096	1.729	0.627	45.084	0.000	0.028	99.748	1.985	43.298	99.947
MA-027-41	0.000	52.517	0.004	0.055	0.021	0.190	1.727	0.617	44.519	0.000	0.015	99.665	0.783	43.815	99.743

Sample	SiO2	TiO2	Nb2O5	Al2O3	Cr2O3	V2O5	MgO	MnO	FeO*	NiO	ZnO	Total	Fe2O3	FeO	Total
MA-027-43	0.031	51.963	0.037	0.053	0.000	0.055	1.183	0.683	45.859	0.005	0.010	99.879	1.979	44.078	100.077
MA-027-44	0.010	52.620	0.037	0.046	0.015	0.096	1.722	0.718	44.632	0.000	0.035	99.931	1.041	43.695	100.035
MA-027-45	0.028	52.205	0.007	0.052	0.019	0.129	1.358	0.685	45.350	0.001	0.036	99.870	1.452	44.044	100.015
MA-027-46	0.026	52.168	0.004	0.089	0.035	0.134	2.106	0.596	44.311	0.004	0.039	99.512	1.719	42.764	99.684
MA-027-84	0.006	51.736	0.000	0.083	0.039	0.274	2.789	0.499	43.772	0.007	0.020	99.225	2.565	41.464	99.482
MA-027-85	0.022	53.017	0.056	0.005	0.009	0.000	0.178	7.964	38.568	0.009	0.005	99.833	0.000	38.568	99.833
MA-027-87	0.021	51.716	0.006	0.059	0.005	0.059	0.951	0.740	45.717	0.004	0.012	99.290	1.717	44.172	99.462
MA-029-05	0.010	51.815	0.033	0.046	0.050	0.206	2.630	0.576	43.755	0.001	0.023	99.145	2.310	41.676	99.376
MA-029-17	0.012	51.836	0.067	0.015	0.001	0.000	0.013	3.993	43.408	0.019	0.004	99.368	0.886	42.611	99.457
MA-029-18	0.031	52.187	0.000	0.005	0.000	0.000	0.020	4.271	42.809	0.000	0.010	99.333	0.237	42.596	99.357
MA-031-04	0.025	52.111	0.037	0.048	0.007	0.041	1.906	0.658	44.695	0.007	0.034	99.569	2.000	42.896	99.769
MA-031-07	0.024	51.755	0.022	0.013	0.026	0.032	1.014	0.717	45.524	0.000	0.021	99.148	1.591	44.092	99.307
MA-031-14	0.011	51.392	0.059	0.035	0.006	0.085	0.600	0.679	46.419	0.001	0.021	99.308	1.967	44.649	99.505
MA-031-28	0.025	51.179	0.015	0.079	0.028	0.164	2.068	0.539	45.323	0.000	0.008	99.428	3.593	42.090	99.788
MA-031-30	0.023	51.515	0.002	0.089	0.037	0.235	2.820	0.550	44.191	0.009	0.025	99.496	3.421	41.113	99.839
MA-033-01	0.007	49.827	0.017	0.008	0.010	0.083	0.079	1.401	47.796	0.000	0.022	99.250	4.901	43.386	99.741
MA-033-12	0.033	52.742	0.000	0.034	0.047	0.383	2.307	0.583	44.171	0.000	0.010	100.310	0.899	43.362	100.400
MA-033-18	0.033	51.438	0.000	0.123	0.072	0.286	2.274	0.523	44.979	0.006	0.006	99.740	3.140	42.154	100.055
MA-033-20	0.027	52.330	0.067	0.083	0.031	0.168	2.204	0.566	44.269	0.000	0.020	99.765	1.511	42.909	99.916
MA-033-21	0.011	44.520	0.068	0.409	0.077	0.149	3.617	0.309	48.675	0.041	0.031	97.907	16.830	33.531	99.593
MA-033-22	0.013	52.290	0.004	0.056	0.064	0.270	2.666	0.495	44.312	0.013	0.023	100.206	2.366	42.183	100.443
MA-033-41	0.010	52.367	0.004	0.039	0.008	0.076	1.167	0.755	45.003	0.014	0.011	99.454	0.715	44.360	99.526
MA-033-44	0.019	52.905	0.028	0.029	0.028	0.096	1.802	0.694	44.155	0.012	0.017	99.785	0.351	43.839	99.820
MA-033-52	0.048	52.511	0.024	0.040	0.000	0.008	1.175	0.755	45.154	0.000	0.022	99.737	0.795	44.438	99.817
MA-033-53	0.003	51.245	0.045	0.083	0.055	0.323	1.879	0.590	45.517	0.014	0.032	99.786	3.179	42.657	100.104
MA-033-54	0.014	51.398	0.246	0.044	0.000	0.006	0.284	0.871	46.246	0.000	0.025	99.134	1.272	45.101	99.261
MA-033-55	0.019	52.232	0.065	0.108	0.029	0.231	2.675	0.521	44.013	0.003	0.014	99.910	2.106	42.118	100.121
MA-033-56	0.012	51.974	0.000	0.002	0.009	0.081	0.932	0.813	45.589	0.002	0.026	99.440	1.354	44.371	99.576
MA-033-57	0.036	52.430	0.019	0.055	0.012	0.048	1.379	0.744	44.926	0.013	0.018	99.680	0.976	44.048	99.778
MA-033-58	0.035	52.394	0.000	0.062	0.016	0.186	2.173	0.580	43.982	0.013	0.026	99.467	1.140	42.956	99.581
MA-033-59	0.031	51.461	0.000	0.088	0.005	0.083	1.690	0.628	45.256	0.000	0.014	99.256	2.747	42.784	99.531
MA-039-34	0.012	50.408	0.028	0.111	0.005	0.204	1.519	0.559	45.891	0.000	0.016	98.753	3.870	42.409	99.141
MA-039-35	0.030	50.314	0.000	0.086	0.007	0.262	2.430	0.467	45.661	0.026	0.003	99.286	5.331	40.864	99.820
MA-043-10	0.006	51.754	0.026	0.026	0.024	0.067	0.086	0.577	47.262	0.000	0.022	99.850	1.487	45.924	99.999
MA-043-13	0.014	51.318	0.061	0.126	0.036	0.199	2.702	0.577	44.496	0.008	0.025	99.562	3.757	41.116	99.938
MA-043-15	0.019	51.810	0.000	0.047	0.000	0.020	0.253	1.641	45.934	0.000	0.000	99.724	1.559	44.532	99.880
MA-043-36	0.012	50.537	0.000	0.027	0.042	0.031	0.244	4.302	43.959	0.005	0.022	99.181	3.630	40.692	99.545
MA-043-38	0.012	50.907	0.000	0.011	0.011	0.027	0.731	1.701	46.039	0.021	0.004	99.464	3.615	42.786	99.826
MA-057-35	0.004	52.289	0.026	0.074	0.013	0.202	1.968	0.614	44.593	0.009	0.042	99.834	1.550	43.198	99.989
MA-057-45	0.026	47.898	0.000	0.081	0.031	0.276	0.092	0.958	48.204	0.000	0.017	97.583	6.461	42.390	98.230
MA-057-57	0.000	50.355	0.037	0.123	0.074	0.199	2.251	0.481	45.675	0.010	0.016	99.221	5.069	41.114	99.729

Sample	SiO2	TiO2	Nb2O5	Al2O3	Cr2O3	V2O5	MgO	MnO	FeO*	NiO	ZnO	Total	Fe2O3	FeO	Total
MA-057-70	0.054	52.697	0.000	0.049	0.016	0.049	1.941	0.707	44.351	0.020	0.024	99.908	1.152	43.314	100.023
MA-057-75	0.041	50.166	0.048	0.088	0.073	0.273	1.956	0.619	46.289	0.027	0.049	99.629	5.364	41.462	100.166
MA-059-11	0.000	50.677	0.043	0.019	0.091	0.000	0.188	4.056	44.765	0.000	0.003	99.842	3.993	41.172	100.242
MA-059-13	0.033	52.117	0.015	0.063	0.015	0.146	1.870	0.636	44.433	0.003	0.027	99.358	1.427	43.149	99.501
MA-063-10	0.019	50.099	0.000	0.013	0.055	0.015	0.191	3.906	45.245	0.003	0.008	99.554	4.949	40.791	100.050
MA-063-11	0.025	52.665	0.020	0.044	0.014	0.094	1.519	0.680	45.428	0.000	0.029	100.518	1.434	44.138	100.662
MA-063-13	0.028	52.375	0.000	0.053	0.001	0.046	1.658	0.666	44.813	0.015	0.024	99.679	1.415	43.540	99.821
MA-063-14	0.016	52.180	0.007	0.089	0.000	0.055	1.340	0.649	45.488	0.000	0.029	99.853	1.692	43.966	100.023
MA-069-03	0.029	51.513	0.050	0.011	0.023	0.030	0.105	1.792	46.371	0.002	0.036	99.962	2.165	44.423	100.179
MA-069-12	0.030	50.288	0.091	0.009	0.153	0.000	0.182	2.662	46.060	0.025	0.027	99.527	4.193	42.287	99.947
MA-069-13	0.032	48.134	0.011	0.013	0.007	0.115	0.097	1.512	49.240	0.005	0.021	99.187	8.281	41.789	100.017
MA-069-15	0.044	51.994	0.000	0.032	0.000	0.120	1.081	0.705	45.580	0.005	0.025	99.586	1.389	44.331	99.725
MA-069-18	0.000	51.023	0.026	0.009	0.000	0.071	0.130	0.651	47.293	0.000	0.044	99.247	2.445	45.093	99.492
MA-069-20	0.025	50.641	0.000	0.053	0.036	0.177	0.897	0.678	46.607	0.000	0.027	99.141	3.409	43.539	99.483
MA-069-22	0.030	51.868	0.000	0.000	0.008	0.077	0.135	1.999	45.587	0.000	0.018	99.722	1.187	44.519	99.841
MA-069-23	0.062	55.004	0.036	0.140	0.124	0.259	0.619	0.377	36.423	0.008	0.000	93.052	0.000	36.423	93.052
MA-079-09	0.014	52.016	0.000	0.039	0.025	0.132	2.288	0.672	43.957	0.000	0.029	99.172	1.934	42.217	99.366
MA-079-10	0.009	48.672	0.000	0.053	0.029	0.264	0.471	0.992	48.303	0.004	0.000	98.797	6.618	42.348	99.460
MA-079-11	0.011	51.548	0.000	0.083	0.025	0.142	1.817	0.612	45.102	0.005	0.040	99.385	2.676	42.694	99.653
MA-079-12	0.025	51.623	0.015	0.096	0.057	0.219	2.223	0.541	44.803	0.017	0.029	99.648	2.823	42.263	99.931
MA-079-15	0.016	51.766	0.020	0.111	0.046	0.291	2.927	0.520	44.081	0.021	0.030	99.829	3.133	41.262	100.143
MA-079-16	0.027	50.342	0.035	0.014	0.016	0.000	0.549	0.801	47.397	0.018	0.027	99.226	4.320	43.509	99.659
MA-079-19	0.003	51.846	0.071	0.061	0.000	0.012	0.852	0.810	45.645	0.009	0.020	99.329	1.432	44.357	99.472
MA-079-20	0.019	51.616	0.043	0.080	0.007	0.203	2.552	0.558	44.092	0.000	0.005	99.175	2.671	41.688	99.443
MA-079-29	0.070	51.043	0.140	0.015	0.012	0.000	0.012	2.402	44.319	0.000	0.026	98.039	0.734	43.658	98.113
MA-079-32	0.039	51.912	0.041	0.082	0.000	0.075	1.014	0.788	45.333	0.009	0.023	99.316	1.196	44.257	99.436
MA-079-36	0.016	51.801	0.041	0.065	0.046	0.173	1.602	0.610	45.178	0.017	0.028	99.577	1.970	43.405	99.774
MA-079-44	0.035	50.412	0.039	0.021	0.028	0.248	0.072	4.926	43.052	0.001	0.000	98.834	2.625	40.690	99.097
MA-079-45	0.010	51.709	0.000	0.041	0.000	0.030	0.209	0.945	46.742	0.000	0.026	99.712	1.707	45.206	99.883
MA-093-56	0.019	49.475	0.009	0.034	0.009	0.192	0.242	0.640	48.585	0.000	0.014	99.219	5.391	43.734	99.759
MA-093-68	0.048	52.222	0.000	0.090	0.025	0.096	2.345	0.561	44.123	0.000	0.025	99.535	1.914	42.401	99.727
MA-093-74	0.036	52.845	0.106	0.012	0.030	0.000	0.484	1.909	44.803	0.020	0.009	100.254	0.000	44.803	100.254
MA-097-24	0.035	46.795	0.017	0.019	0.082	0.368	0.065	1.403	49.685	0.015	0.000	98.484	9.462	41.171	99.432
MA-097-30	0.033	52.518	0.059	0.086	0.027	0.242	3.013	0.531	43.649	0.007	0.021	100.186	2.077	41.780	100.394
MA-097-31	0.023	53.025	0.054	0.036	0.023	0.139	2.435	0.672	43.162	0.000	0.027	99.596	0.242	42.945	99.620
MA-097-32	0.033	51.215	0.000	0.092	0.005	0.123	1.961	0.583	45.276	0.007	0.004	99.299	3.426	42.194	99.642
MA-097-33	0.023	52.513	0.087	0.053	0.019	0.096	1.220	0.680	45.305	0.001	0.034	100.031	0.782	44.602	100.109
MA-097-34	0.031	52.060	0.013	0.030	0.000	0.000	0.665	0.887	45.734	0.005	0.009	99.434	1.071	44.770	99.541
MA-097-35	0.035	52.429	0.000	0.074	0.062	0.188	2.306	0.601	43.687	0.000	0.027	99.409	1.048	42.744	99.514
MA-097-36	0.037	51.722	0.030	0.100	0.023	0.166	1.940	0.597	44.986	0.017	0.030	99.648	2.490	42.745	99.897
MA-097-37	0.035	52.243	0.000	0.020	0.000	0.065	0.911	0.731	45.594	0.000	0.009	99.608	0.935	44.752	99.702

Sample	SiO2	TiO2	Nb2O5	Al2O3	Cr2O3	V2O5	MgO	MnO	FeO*	NiO	ZnO	Total	Fe2O3	FeO	Total
MA-099-17	0.006	51.788	0.017	0.042	0.016	0.000	0.426	1.090	45.944	0.017	0.000	99.346	1.364	44.716	99.483
MA-119-35	0.020	52.543	0.006	0.034	0.047	0.068	0.141	1.585	45.765	0.000	0.039	100.248	0.299	45.496	100.278
MA-137-37	0.004	52.530	0.026	0.063	0.000	0.087	1.647	0.656	44.839	0.007	0.035	99.894	1.187	43.771	100.013
MA-143-11	0.047	51.568	0.000	0.063	0.010	0.065	1.165	0.708	45.564	0.000	0.016	99.206	2.045	43.724	99.411
MA-145-18	0.012	52.642	0.035	0.045	0.004	0.037	1.211	0.732	44.664	0.008	0.003	99.393	0.139	44.539	99.407
MA-153-10	0.022	50.620	0.063	0.118	0.042	0.218	1.862	0.508	46.017	0.001	0.045	99.516	4.369	42.086	99.954
MA-153-11	0.035	52.805	0.000	0.074	0.015	0.158	2.585	0.548	43.400	0.000	0.025	99.645	0.897	42.593	99.735
MA-171-05	0.000	52.894	0.026	0.069	0.009	0.009	2.351	0.654	44.256	0.000	0.025	100.293	1.692	42.733	100.463
MA-171-07	0.091	51.408	0.048	0.061	0.031	0.036	0.034	2.394	44.647	0.014	0.000	98.764	0.777	43.947	98.842
MA-171-14	0.015	51.748	0.039	0.011	0.014	0.041	0.386	0.518	46.943	0.001	0.047	99.763	1.710	45.404	99.934
MA-171-20	0.030	50.470	0.026	0.007	0.026	0.139	0.077	1.284	47.402	0.006	0.019	99.486	3.549	44.208	99.842
MA-171-21	0.009	52.407	0.054	0.051	0.013	0.000	1.226	0.755	44.931	0.001	0.000	99.447	0.762	44.246	99.523
MA-171-22	0.014	52.399	0.000	0.107	0.000	0.008	1.622	0.641	44.826	0.000	0.031	99.648	1.382	43.582	99.787
MA-171-23	0.021	51.451	0.024	0.044	0.023	0.136	1.813	0.649	45.397	0.002	0.000	99.560	3.060	42.643	99.867
MA-171-24	0.019	51.130	0.015	0.011	0.037	0.042	0.203	3.725	44.205	0.004	0.000	99.391	2.511	41.946	99.643
MA-241-02	0.037	50.776	0.147	0.023	0.020	0.166	0.215	0.769	48.055	0.001	0.038	100.247	3.474	44.929	100.595
MA-243-06	0.010	52.211	0.000	0.101	0.033	0.291	2.718	0.545	44.178	0.010	0.019	100.116	2.420	42.001	100.358
MA-263-02	0.019	50.798	0.123	0.014	0.018	0.047	0.069	1.668	46.826	0.000	0.021	99.603	3.053	44.079	99.909
MA-265-17	0.030	51.958	0.011	0.012	0.000	0.002	0.413	3.692	43.885	0.015	0.006	100.024	1.785	42.279	100.203
MA-285-09	0.036	50.977	0.007	0.137	0.078	0.292	2.281	0.491	45.108	0.017	0.044	99.468	3.748	41.736	99.843
MA-291-07	0.018	48.329	0.169	0.030	0.026	0.178	0.217	0.622	49.836	0.004	0.025	99.454	7.705	42.903	100.226
MA-305-08	0.010	51.641	0.071	0.000	0.000	0.092	0.026	2.057	45.289	0.000	0.009	99.195	0.838	44.535	99.279
MA-305-09	0.049	52.190	0.000	0.044	0.013	0.028	0.723	0.706	45.898	0.000	0.031	99.682	0.994	45.004	99.782
MA-305-10	0.052	49.787	0.039	0.017	0.024	0.121	0.026	3.569	46.132	0.005	0.024	99.796	5.282	41.379	100.325
MA-305-11	0.031	49.457	0.004	0.055	0.028	0.210	0.055	3.017	46.686	0.009	0.014	99.566	5.572	41.673	100.124
MA-337-03	0.017	49.702	0.033	0.012	0.003	0.067	0.292	0.521	48.400	0.000	0.000	99.047	5.103	43.808	99.558
MA-367-11	0.024	52.102	0.022	0.081	0.053	0.204	1.964	0.656	45.062	0.009	0.027	100.204	2.257	43.031	100.430
MA-385-01	0.003	49.656	0.000	0.008	0.023	0.072	0.131	1.527	47.782	0.010	0.048	99.260	5.383	42.938	99.799
MA-385-05	0.034	48.588	0.004	0.021	0.040	0.122	0.457	0.457	49.756	0.009	0.025	99.513	7.928	42.622	100.307
MA-399-04	0.029	48.636	0.022	0.000	0.009	0.140	0.072	1.892	48.596	0.009	0.016	99.421	7.388	41.948	100.161
MA-399-05	0.027	51.060	0.000	0.076	0.036	0.325	2.125	0.462	45.654	0.005	0.008	99.778	3.844	42.195	100.163
MA-403-07	0.024	52.128	0.028	0.020	0.048	0.058	1.165	0.750	45.869	0.005	0.017	100.112	1.887	44.171	100.301
MA-403-11	0.004	50.527	0.015	0.004	0.086	0.018	0.199	2.644	45.949	0.018	0.007	99.471	3.911	42.430	99.863
MA-411-08	0.018	50.234	0.035	0.015	0.048	0.022	0.277	4.190	44.782	0.015	0.012	99.648	4.754	40.505	100.124
MA-417-16	0.024	52.375	0.000	0.072	0.006	0.273	2.192	0.569	44.815	0.000	0.029	100.355	1.961	43.050	100.552
MA-417-17	0.035	52.390	0.002	0.046	0.000	0.000	1.305	0.772	45.256	0.005	0.024	99.835	1.371	44.022	99.972
MA-427-02	0.032	51.949	0.094	0.048	0.013	0.097	0.719	0.802	46.647	0.000	0.028	100.429	1.953	44.890	100.625
MA-429-17	0.023	50.992	0.037	0.080	0.023	0.193	1.895	0.602	45.901	0.012	0.020	99.778	4.101	42.211	100.189
MA-431-45	0.028	50.544	0.004	0.099	0.028	0.226	1.920	0.566	46.652	0.006	0.018	100.091	5.359	41.830	100.628
MA-431-49	0.021	52.378	0.081	0.068	0.044	0.159	2.588	0.534	44.042	0.013	0.025	99.953	1.961	42.278	100.149
MA-431-51	0.020	50.276	0.000	0.086	0.063	0.270	2.310	0.477	45.938	0.016	0.000	99.456	5.436	41.046	100.001

Sample	SiO2	TiO2	Nb2O5	Al2O3	Cr2O3	V2O5	MgO	MnO	FeO*	NiO	ZnO	Total	Fe2O3	FeO	Total
MA-431-52	0.060	50.835	0.000	0.084	0.042	0.269	1.712	0.556	45.896	0.011	0.038	99.503	3.716	42.552	99.875
MA-431-54	0.031	51.166	0.000	0.087	0.033	0.256	1.925	0.560	45.586	0.016	0.035	99.695	3.531	42.409	100.049
MA-431-55	0.041	50.093	0.000	0.082	0.019	0.153	1.340	0.560	46.673	0.000	0.025	98.986	4.794	42.360	99.466
MA-431-59	0.011	52.569	0.011	0.035	0.000	0.092	1.226	0.792	45.181	0.001	0.032	99.950	0.838	44.427	100.034
MA-431-62	0.028	52.579	0.022	0.033	0.000	0.163	1.924	0.641	43.997	0.006	0.009	99.402	0.547	43.505	99.457
MA-431-64	0.013	52.237	0.024	0.042	0.016	0.105	1.521	0.712	44.787	0.000	0.034	99.491	1.186	43.720	99.610
MA-431-65	0.001	52.172	0.007	0.090	0.026	0.237	2.506	0.612	43.737	0.000	0.031	99.419	1.724	42.186	99.592
MA-435-09	0.020	53.092	0.000	0.086	0.000	0.038	2.489	0.601	43.408	0.013	0.003	99.750	0.712	42.768	99.821
MA-435-20	0.038	49.605	0.024	0.137	0.029	0.272	2.415	0.466	45.992	0.018	0.007	99.003	6.315	40.309	99.636
MA-435-21	0.014	52.042	0.000	0.054	0.000	0.156	1.703	0.644	45.029	0.007	0.026	99.675	1.871	43.345	99.862
MA-435-24	0.012	51.286	0.000	0.000	0.061	0.041	0.327	2.918	45.233	0.013	0.039	99.930	2.912	42.613	100.222
MA-441-25	0.004	52.422	0.000	0.062	0.007	0.039	1.111	0.828	45.443	0.000	0.013	99.929	1.185	44.377	100.048
MA-441-28	0.034	52.306	0.087	0.037	0.021	0.086	0.785	0.782	45.967	0.011	0.019	100.135	0.976	45.088	100.233
MA-441-36	0.021	49.883	0.000	0.065	0.021	0.193	1.876	0.564	46.429	0.014	0.028	99.094	5.773	41.235	99.672
MA-441-37	0.012	50.469	0.000	0.083	0.039	0.212	1.580	0.673	46.539	0.000	0.012	99.619	4.794	42.226	100.099
MA-441-44	0.009	50.396	0.000	0.111	0.037	0.197	1.893	0.532	46.072	0.000	0.027	99.274	4.854	41.705	99.760
MA-443-07	0.012	51.365	0.000	0.086	0.039	0.207	2.469	0.539	45.438	0.002	0.018	100.175	4.301	41.568	100.606
MA-443-08	0.024	51.553	0.026	0.095	0.043	0.241	2.574	0.590	44.759	0.000	0.027	99.932	3.524	41.588	100.285
MA-443-12	0.028	51.709	0.000	0.121	0.032	0.361	2.831	0.506	44.111	0.000	0.023	99.722	2.873	41.526	100.010
MA-443-13	0.015	51.837	0.057	0.100	0.048	0.200	2.261	0.573	44.755	0.015	0.033	99.894	2.665	42.357	100.161
MA-443-18	0.000	51.329	0.022	0.087	0.016	0.185	2.284	0.538	45.215	0.010	0.026	99.712	3.766	41.826	100.089
MA-443-19	0.025	51.484	0.000	0.104	0.025	0.273	2.246	0.509	44.914	0.006	0.037	99.623	3.014	42.202	99.925
MA-443-20	0.019	51.967	0.000	0.075	0.021	0.185	1.864	0.609	45.288	0.008	0.045	100.081	2.476	43.060	100.329
MA-443-21	0.007	50.414	0.000	0.075	0.036	0.166	1.152	0.720	46.796	0.000	0.020	99.386	4.435	42.806	99.830
MA-443-22	0.021	51.402	0.002	0.091	0.022	0.295	2.782	0.572	44.392	0.000	0.027	99.606	3.596	41.156	99.966
MA-459-01	0.034	50.688	0.000	0.022	0.000	0.000	0.404	0.500	48.301	0.002	0.044	99.995	4.386	44.355	100.434
MA-459-02	0.008	52.262	0.061	0.054	0.072	0.138	2.096	0.664	44.743	0.019	0.011	100.128	2.099	42.855	100.338
MA-459-03	0.034	52.206	0.076	0.004	0.001	0.042	0.115	0.553	47.093	0.000	0.005	100.129	0.808	46.366	100.210
MA-459-04	0.006	49.486	0.000	0.051	0.016	0.036	0.254	0.460	49.284	0.004	0.013	99.610	6.283	43.630	100.240
MA-459-05	0.017	51.656	0.013	0.032	0.046	0.129	1.614	0.602	45.801	0.002	0.000	99.912	2.888	43.202	100.201
MA-459-06	0.000	46.994	0.033	0.004	0.002	0.050	0.393	0.434	50.758	0.000	0.014	98.682	10.598	41.222	99.744
MA-459-07	0.010	48.594	0.000	0.028	0.012	0.073	0.407	0.519	49.661	0.012	0.027	99.343	7.915	42.539	100.136
MA-459-08	0.040	51.532	0.000	0.017	0.000	0.015	0.229	0.892	47.505	0.015	0.009	100.254	2.698	45.078	100.524
MA-459-09	0.034	48.934	0.033	0.013	0.012	0.073	0.828	0.564	49.044	0.000	0.019	99.554	7.682	42.132	100.324
MA-459-10	0.022	51.832	0.028	0.043	0.012	0.148	1.032	0.477	46.994	0.000	0.014	100.602	2.699	44.566	100.872
MA-467-17	0.011	51.332	0.000	0.083	0.022	0.133	1.590	0.625	45.975	0.007	0.041	99.819	3.446	42.874	100.164
MA-471-01	0.024	47.014	0.000	0.000	0.020	0.185	0.400	0.432	51.046	0.001	0.006	99.128	10.674	41.442	100.197
MA-471-02	0.030	52.398	0.024	0.037	0.015	0.085	1.546	0.498	45.446	0.003	0.009	100.091	1.557	44.045	100.247
MA-471-04	0.000	48.472	0.000	0.000	0.030	0.328	0.476	0.389	49.977	0.000	0.000	99.672	7.905	42.864	100.464
MA-471-05	0.012	48.642	0.057	0.019	0.005	0.150	0.452	0.447	49.871	0.000	0.000	99.655	7.863	42.796	100.443
MA-479-04	0.045	51.049	0.022	0.016	0.018	0.000	0.043	0.790	48.066	0.004	0.028	100.081	3.321	45.078	100.414

Sample	SiO2	TiO2	Nb2O5	Al2O3	Cr2O3	V2O5	MgO	MnO	FeO*	NiO	ZnO	Total	Fe2O3	FeO	Total
MA-479-07	0.020	51.778	0.015	0.000	0.003	0.000	0.978	0.780	44.903	0.000	0.000	98.477	0.927	44.069	98.570
MA-479-08	0.038	47.991	0.000	0.016	0.026	0.272	0.593	0.358	50.196	0.002	0.000	99.492	8.875	42.210	100.381
MA-479-09	0.031	50.603	0.000	0.033	0.009	0.121	0.739	0.492	47.672	0.000	0.024	99.724	4.196	43.897	100.144
MA-479-10	0.009	47.584	0.081	0.011	0.019	0.023	0.262	0.888	49.817	0.000	0.049	98.743	9.226	41.515	99.667
MA-489-15	0.014	52.240	0.024	0.009	0.005	0.000	0.211	0.953	46.568	0.000	0.003	100.027	0.992	45.676	100.126
MA-489-29	0.018	50.424	0.050	0.022	0.021	0.045	0.046	2.580	46.449	0.010	0.000	99.665	4.071	42.786	100.073
MA-491-03	0.020	52.484	0.000	0.026	0.032	0.128	1.901	0.679	44.563	0.000	0.047	99.880	1.397	43.306	100.020
MA-515-08	0.039	50.931	0.000	0.032	0.019	0.099	0.036	2.091	46.721	0.000	0.026	99.994	3.249	43.798	100.319

Sample	SiO2	TiO2	Al2O3	Cr2O3	MgO	CaO	MnO	FeO	CoO	NiO	Total	Ni ppm
Olivines												
Mafic and Kimberlitic												
MA-003-07	40.485	0.028	0.028	0.032	47.544	0.059	0.128	11.134	0.016	0.344	99.798	2703
MA-065-07	41.164	0.019	0.000	0.012	50.813	0.010	0.129	7.197	0.023	0.338	99.705	2656
MA-003-21	40.961	0.002	0.000	0.003	50.829	0.004	0.127	7.242	0.020	0.379	99.567	2978
MA-123-05	41.163	0.035	0.010	0.029	50.845	0.024	0.105	7.956	0.016	0.379	100.562	2978
MA-123-06	41.222	0.001	0.000	0.007	51.233	0.007	0.111	7.543	0.015	0.365	100.504	2868
MA-123-07	41.513	0.016	0.000	0.007	51.006	0.012	0.134	7.454	0.019	0.361	100.522	2837
MA-123-08	41.511	0.014	0.004	0.018	51.838	0.010	0.093	6.606	0.015	0.362	100.471	2845
MA-137-112	41.069	0.018	0.047	0.093	49.642	0.094	0.116	8.789	0.015	0.407	100.290	3198
MA-137-113	41.507	0.009	0.000	0.000	50.732	0.007	0.120	7.854	0.017	0.339	100.585	2664
MA-177-04	41.393	0.001	0.005	0.016	51.450	0.006	0.097	7.188	0.013	0.355	100.524	2790
MA-199-23	41.762	0.005	0.003	0.000	51.614	0.004	0.098	6.708	0.020	0.418	100.632	3285
MA-265-03	41.113	0.002	0.000	0.008	51.571	0.010	0.101	6.908	0.019	0.345	100.077	2711
MA-265-04	41.145	0.007	0.000	0.004	50.771	0.013	0.148	8.203	0.021	0.337	100.649	2648
MA-265-18	41.125	0.014	0.000	0.010	51.620	0.013	0.120	6.821	0.019	0.331	100.073	2601
MA-265-19	41.492	0.002	0.002	0.018	51.294	0.007	0.096	7.079	0.019	0.391	100.400	3073
MA-447-01	41.344	0.003	0.000	0.011	51.956	0.004	0.096	6.521	0.018	0.357	100.310	2805
Mafic												
MA-265-05	40.161	0.023	0.000	0.011	46.657	0.018	0.194	13.004	0.014	0.266	100.348	2090
MA-265-08	56.460	0.066	0.842	0.524	31.860	1.791	0.194	8.040	0.015	0.091	99.883	715
Syenitic												
MA-149-06	34.760	0.040	0.015	0.003	23.063	0.324	0.681	41.321	0.015	0.040	100.262	314
MA-149-07	35.610	0.039	0.020	0.009	25.548	0.310	0.586	38.524	0.033	0.056	100.735	440
MA-149-08	34.715	0.049	0.033	0.000	24.062	0.318	0.702	39.977	0.028	0.039	99.923	306
MA-149-09	34.900	0.062	0.009	0.000	22.690	0.287	0.670	41.961	0.028	0.052	100.659	409
MA-149-10	35.274	0.045	0.010	0.002	24.771	0.314	0.615	39.596	0.023	0.046	100.696	361

Sample	SiO2	TiO2	Nb2O5	Al2O3	Cr2O3	V2O5	MgO	MnO	FeO*	NiO	ZnO	Total	Fe2O3	FeO	Total
Gahnites															
MA-043-08	0.000	0.000	0.000	55.322	0.005	0.014	0.017	0.325	5.517	0.010	38.764	99.974	0.798	4.799	100.054
MA-229-21	0.030	0.010	0.028	55.122	0.000	0.000	0.154	0.388	3.730	0.000	40.325	99.787	0.745	3.059	99.862
MA-229-20	0.029	0.014	0.022	56.375	0.000	0.009	0.573	0.301	9.639	0.004	32.633	99.599	0.000	9.639	99.599
MA-267-11	0.039	0.006	0.000	55.486	0.011	0.030	0.175	0.000	3.940	0.075	40.457	100.219	0.551	3.445	100.274
MA-291-08	0.023	0.005	0.022	55.056	0.000	0.011	0.000	0.329	3.225	0.001	41.356	100.028	0.838	2.471	100.112

Control Grains

Sample	SiO2	TiO2	Nb2O5	Al2O3	MgO	Cr2O3	V2O5	MnO	FeO*	NiO	ZnO	Total	Fe2O3	FeO	Total
Chromites - Overlap Field															
MA-014-01	0.124	0.352	0.000	13.012	51.722	0.176	8.508	0.316	24.792	0.098	0.132	99.232	4.039	21.158	99.637
MA-044-03	0.138	0.512	0.000	7.893	56.303	0.222	7.577	0.264	25.969	0.059	0.120	99.057	4.344	22.061	99.492
MA-044-04	0.092	0.682	0.072	15.240	52.332	0.230	11.898	0.265	17.895	0.116	0.097	98.919	1.384	16.649	99.058
MA-490-27	0.084	2.076	0.000	18.721	42.151	0.180	13.998	0.165	20.596	0.182	0.099	98.252	6.239	14.982	98.877
MA-432-32	0.159	0.286	0.030	13.481	54.795	0.154	13.525	0.162	16.541	0.187	0.033	99.353	3.140	13.715	99.668
Crustal Ilmenites															
MA-476-18	0.043	52.480	0.000	0.026	0.012	0.017	0.458	0.577	45.782	0.002	0.023	99.420	0.000	45.782	99.420
MA-476-19	0.044	52.392	0.034	0.000	0.029	0.018	0.216	2.198	44.732	0.000	0.006	99.669	0.130	44.615	99.682
MA-482-25	0.003	49.148	0.000	0.050	0.085	0.394	0.839	0.190	47.982	0.009	0.003	98.703	5.399	43.124	99.244
MA-490-26	0.029	50.634	0.002	0.020	0.017	0.099	0.063	1.279	47.051	0.014	0.000	99.208	3.052	44.305	99.514
MA-496-28	0.120	57.231	0.028	0.249	0.243	0.135	1.322	0.483	32.968	0.002	0.004	92.785	0.000	32.968	92.785
MA-496-29	0.024	50.607	0.050	0.059	0.012	0.160	1.386	0.608	46.099	0.005	0.050	99.060	3.767	42.709	99.437
MA-432-34	0.025	50.819	0.000	0.120	0.026	0.213	2.719	0.508	44.903	0.010	0.019	99.362	4.694	40.679	99.832
MA-516-42	0.024	52.230	0.041	0.034	0.016	0.222	1.748	0.605	44.779	0.001	0.013	99.713	1.253	43.651	99.839
MA-516-43	0.030	50.454	0.043	0.152	0.011	0.209	2.432	0.565	44.663	0.005	0.033	98.597	4.245	40.843	99.022
MA-468-44	0.005	51.233	0.000	0.017	0.023	0.064	0.466	1.081	46.675	0.008	0.007	99.579	2.707	44.239	99.850

Appendix G

Metamorphic Massive Sulphide Indicator Mineral Data
Picking Results

Summary List of Abbreviations

Cpy:	Chalcopyrite	Ky:	Kyanite
Moly:	Molybdenite	Sill:	Sillimanite
Py:	Pyrite	St:	Staurolite
Gth:	Goethite	Sps:	Spessartine
Sp:	Spinel	Fay:	Fayalite
Cr-Diop:	Chrome diopside	Opx:	Orthopyroxene
RedRut:	Red Rutile	Chr:	Chromite
Cor:	Corundum	Mn-Epi:	Manganese Epidote
Uva:	Uvarovite	Cr-Gros:	Chromium Grossular
sap:	Sapphire	Tr:	trace
gr:	grain(s)		

Sample Number	Metamorphic Massive Sulphide Indicator Mineral Percentages																	
	Cpy	Moly	Py	Gth	Sp	Cor	Mn-Epi	Uva	Cr-Gros	low Cr-Diop	RedRut	Ky	Sil	St	Sps	Fay	Opx	Chr
1-MA-00SA	0	0	Tr(1 gr)	Tr	0	0	0	0	0	0	0	Tr	0	Tr	0	Tr	1	Tr(1 gr)
3-MA-00SA	Tr(1 gr)	0	Tr(7 gr)	Tr	0	0	0	0	0	Tr(3 gr)	0	Tr	Tr	1	0	1	3	Tr(7 gr)
5-MA-00SA	0	0	Tr(2 gr)	Tr	0	0	0	0	0	Tr(1 gr)	Tr(1 gr)	Tr	0	Tr	0	10	Tr	Tr(8 gr)
7-MA-00SA	Tr(14 gr)	Tr(1 gr)	3(~3000 gr)	1	0	0	0	0	0	Tr(5 gr)	0	Tr	0	Tr	0	15	Tr	Tr(7 gr)
9-MA-00SA	Tr(4 gr)	0	Tr(1 gr)	Tr	0	0	0	0	0	Tr(1 gr)	0	0	0	Tr	0	Tr	2	0
11-MA-00SA	Tr(5 gr)	0	2(~2500 gr)	2	0	0	0	0	0	Tr(3 gr)	0	Tr	0	Tr	0	3	1	Tr(13 gr)
13-MA-00SA	Tr(1 gr)	0	Tr(3 gr)	0	0	0	0	0	0	Tr(28 gr)	0	Tr	0	1	0	0	5	Tr(1 gr)
15-MA-00SA	0	0	0	0	0	0	0	0	0	0	0	0	0	Tr	0	0	3	0
17-MA-00SA	Tr(5 gr)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19-MA-00SA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
21-MA-00SA	0	0	2(5 gr)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23-MA-00SA	0	0	Tr(5 gr)	0	0	0	0	0	0	Tr(5 gr)	0	0	0	Tr	0	Tr	Tr	Tr(6 gr)
25-MA-00SA	Tr(1 gr)	0	Tr(~10 gr)	0	0	0	0	0	0	Tr(1 gr)	0	0	0	1	0	0	0	0
27-MA-00SA	0	0	0	0	0	0	0	0	0	Tr(30 gr)	Tr(1 gr)	Tr	0	Tr	0	0	0	Tr(~30 gr)
29-MA-00SA	0	0	Tr(6 gr)	Tr	0	0	0	0	0	Tr(2 gr)	0	0	0	Tr	0	1	0	Tr(10 gr)
31-MA-00SA	0	0	0	0	0	0	0	0	0	Tr(3 gr)	0	0	0	Tr	0	Tr	Tr	Tr(14 gr)
33-MA-00SA	0	0	0	0	0	0	0	0	0	Tr(1 gr)	0	Tr	0	0	0	0	75	Tr(10 gr)
35-MA-00SA	0	0	0	0	0	0	0	0	0	Tr(1 gr)	0	0	0	0	0	0	0	Tr(2 gra)
37-MA-00SA	0	0	Tr(3 gr)	0	0	0	0	0	0	0	0	0	0	0	0	Tr	Tr	Tr(3 gr)
39-MA-00SA	Tr(1 gr)	0	Tr(1 gr)	0	0	0	0	0	0	Tr(9 gr)	0	0	0	0	0	0	Tr	Tr(11 gr)
41-MA-00SA	Tr(2 gr)	0	Tr(2 gr)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43-MA-00SA	Tr(3 gr)	0	Tr(~15 gr)	0	1 green gahnite	0	0	0	0	Tr(9 gr)	0	Tr	0	1	0	Tr	0	Tr(15 gr)
45-MA-00SA	Tr(2 gr)	0	1(~100 gr)	0	0	0	0	0	0	0	0	0	0	Tr	0	0	0	0
47-MA-00SA	0	0	Tr(4 gr)	2	0	0	0	0	0	Tr(1 gr)	0	Tr	0	Tr	0	10	2	0
49-MA-00SA	0	Tr(2 gr)	0	0	0	0	0	0	0	Tr(2 gr)	0	Tr	0	Tr	0	Tr	Tr	Tr(1 gr)
51-MA-00SA	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	2	0
53-MA-00SA	Tr(1 gr)	0	Tr(15 gr)	Tr	0	0	0	0	0	0	0	0	0	Tr	Tr	Tr	Tr	Tr(2 gr)
55-MA-00SA	0	0	Tr(1 gr)	0	0	0	0	0	0	Tr(2 gr)	0	Tr	0	Tr	0	Tr	0	0
57-MA-00SA	0	0	Tr(2 gr)	0	0	0	0	0	0	Tr(3 gr)	0	0	0	Tr	Tr	15	0	Tr(6 gr)
59-MA-00SA	0	0	Tr(1 gr)	0	1 grey-pink	0	0	0	0	Tr(14 gr)	0	Tr	0	3	0	0	5	Tr(7 gr)

Sample Number	Metamorphic Massive Sulphide Indicator Mineral Percentages																	
	Cpy	Moly	Py	Gth	Sp	Cor	Mn-Epi	Uva	Cr-Gros	low Cr-Diop	RedRut	Ky	Sil	St	Sps	Fay	Opx	Chr
65-MA-00SA	Tr(4 gr)	0	Tr(~30 gr)	0	0	0	0	0	0	Tr(13 gr)	0	Tr	0	Tr	0	Tr	Tr	Tr(1 gr)
67-MA-00SA	0	0	Tr(1 gr)	0	0	0	0	0	0	0	0	0	0	0	0	Tr	0	0
69-MA-00SA	Tr(2 gr)	0	Tr(11 gr)	Tr	0	0	0	0	0	Tr(6 gr)	0	Tr	0	Tr	Tr	Tr	0	Tr(12 gr)
71-MA-00SA	Tr(9 gr)	0	40(~4000 gr)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
73-MA-00SA	0	0	Tr(1 gr)	Tr	0	0	0	0	0	0	0	0	0	Tr	0	0	2	0
75-MA-00SA	0	0	Tr(1 gr)	Tr	0	0	0	0	0	Tr(4 gr)	0	Tr	0	Tr	0	3	2	Tr(1 gra)
77-MA-00SA	0	0	Tr(1 gr)	Tr	0	0	0	0	0	0	0	0	0	Tr	0	0	0	0
79-MA-00SA	0	0	Tr(2 gr)	Tr	0	0	0	0	0	Tr(7 gr)	0	0	Tr	Tr	Tr	0	5	Tr(8 gr)
81-MA-00SA	0	0	Tr(~10 gr)	0	0	0	0	0	0	0	0	0	0	0	0	0	30	0
83-MA-00SA	0	0	Tr(~15 gr)	Tr	0	0	0	0	0	0	Tr(1 gr)	0	0	0	0	Tr	30	0
85-MA-00SA	Tr(3 gr)	0	Tr(2 gr)	Tr	0	0	0	0	0	Tr (7 gr)	0	0	0	0	Tr	0	35	0
87-MA-00SA	Tr(29 gr)	0	Tr(~40 gr)	0.5	0	0	0	0	0	0	0	0	0	Tr	0	Tr	12	Tr(2 gr)
89-MA-00SA	0	0	0	Tr	0	0	0	0	0	Tr (2 gr)	0	0	0	0	Tr	0	7	Tr(1 gr)
91-MA-00SA	0	0	0	Tr	0	0	0	0	0	0	0	0	0	0	0	0	0	0
93-MA-00SA	0	0	Tr(3 gr)	Tr	0	0	0	0	0	Tr (9 gr)	0	0	0	Tr	Tr	0	Tr	Tr(~60 gr)
95-MA-00SA	0	0	0	0	0	0	0	0	0	0	0	Tr	0	0	0	0	Tr	0
97-MA-00SA	Tr(15 gr)	0	Tr(~75 gr)	5	1 blue-green	0	0	0	0	Tr (17 gr)	0	0	2	Tr	Tr	Tr	2	Tr(12 gr)
99-MA-00SA	0	0	Tr(3 gr)	Tr	0	0	0	0	0	Tr (2 gr)	0	Tr	0	Tr	0	0	20	Tr(~20 gr)
101-MA-00SA	Tr(6 gr)	0	Tr(6 gr)	0	0	0	0	0	0	Tr(2 gr)	0	0	0	Tr	0	0	25	0
103-MA-00SA	0	0	0	0	0	0	0	0	0	0	0	0	0	Tr	0	0	35	Tr(3 gr)
105-MA-00SA	0	0	Tr(~10 gr)	0	0	0	0	0	0	Tr (1 gr)	0	0	0	Tr	0	0	10	Tr(1 gr)
107-MA-00SA	0	0	0	0	0	0	0	0	0	0	0	0	0	Tr	0	0	7	0
109-MA-00SA	0	0	0	0	0	0	0	0	0	0	0	Tr	0	Tr	0	0	4	0
111-MA-00SA	Tr(1 gr)	0	Tr(2 gr)	0	0	0	0	0	0	Tr(1 gr)	0	Tr	0	1	0	0	2	0
113-MA-00SA	Tr(1 gr)	0	Tr(2 gr)	0	0	0	0	0	0	0	0	Tr	0	3	0	0	3	0
115-MA-00SA	0	0	Tr(1 gr)	0	0	0	0	0	0	0	0	Tr	0	Tr	0	0	Tr	Tr(1 gr)
117-MA-00SA	Tr(7 gr)	0	1(~400 gr)	Tr	0	0	0	0	0	0	0	Tr	0	1	0	0	Tr	0
119-MA-00SA	0	0	Tr(~50 gr)	0	0	0	0	0	0	Tr(7 gr)	0	1	0	5	Tr	Tr	Tr	Tr(~100 gr)
121-MA-00SA	0	Tr(1 gr)	Tr(~30 gr)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Sample Number	Metamorphic Massive Sulphide Indicator Mineral Percentages																	
	Cpy	Moly	Py	Gth	Sp	Cor	Mn-Epi	Uva	Cr-Gros	low Cr-Diop	RedRut	Ky	Sil	St	Sps	Fay	Opx	Chr
131-MA-00SA	0	0	Tr(~30 gr)	0	0	0	0	0	0	Tr (1 gr)	0	Tr	Tr	Tr	0	0	10	Tr(4 gr)
133-MA-00SA	Tr(1 gr)	0	0.5(32 gr)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
135-MA-00SA	Tr(1 gr)	0	Tr(~20)	0	1 pale purple	Tr (1 gr-ruby)	0	0	0	Tr (~40 gr)	0	Tr	Tr	1	0	0	2	Tr(3 gr)
137-MA-00SA	0	0	0	0	2 pale grey,pale pink	Tr (1 gr-sap)	0	0	0	Tr(~50 gr)	0	Tr	0	Tr	0	0	7	Tr(~400 gr)
139-MA-00SA	0	0	0	0	0	0	0	0	0	Tr (2 gr)	0	Tr	0	0	0	0	35	Tr(1 gr)
141-MA-00SA	0	0	0	0	0	0	0	0	0	Tr (2 gr)	0	0	0	0	0	0	8	Tr(2 gr)
143-MA-00SA	0	0	Tr(5 gr)	0	0	0	0	0	0	0	0	0	0	Tr	0	0	40	Tr(14 gr)
145-MA-00SA	0	0	0	0.5	0	0	0	0	0	Tr(3 gr)	0	0	Tr	Tr	0	0	0	Tr(15 gr)
147-MA-00SA	0	0	1(~400 gr)	0	0	0	0	0	0	Tr (2 gr)	0	Tr	Tr	Tr	0	0	Tr	Tr(4 gr)
149-MA-00SA	0	0	0	0	0	0	0	0	0	Tr (1 gr)	0	0	0	0	0	5	5	Tr(4 gr)
151-MA-00SA	0	0	Tr(3 gr)	0	0	0	0	0	0	0	0	0	0	0	0	Tr	Tr	0
153-MA-00SA	Tr(2 gr)	0	Tr(~10 gr)	Tr	0	0	0	0	0	Tr (9 gr)	Tr(1 gr)	0	Tr	Tr	Tr	0	1	Tr(4 gr)
155-MA-00SA	0	0	0	Tr	0	0	0	0	0	0	0	0	0	Tr	0	Tr	Tr	Tr(1 gr)
157-MA-00SA	Tr(1 gr)	0	0	Tr	0	0	0	0	0	Tr (1 gr)	0	Tr	0	Tr	Tr	Tr	Tr	0
159-MA-00SA	0	0	0	0	0	0	0	0	0	0	0	0	0	Tr	0	0	Tr	0
161-MA-00SA	Tr(1 gr)	0	Tr(~40 gr)	Tr	0	0	0	0	0	Tr (1 gr)	0	0	0	Tr	0	0	Tr	0
163-MA-00SA	0	0	0	0	0	0	0	0	0	Tr (2 gr)	0	0	0	Tr	0	0	5	0
165-MA-00SA	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	5	0
167-MA-00SA	Tr(1 gr)	0	Tr(4 gr)	0	0	0	0	0	0	Tr (4 gr)	0	Tr	0	0	0	Tr	4	Tr(1 gr)
169-MA-00SA	0	0	0	0	0	0	0	0	0	0	0	Tr	0	0	0	0	Tr	0
171-MA-00SA	0	0	Tr(1 gr)	Tr	0	0	0	0	0	Tr (2 gr)	Tr(1 gr)	Tr	Tr	Tr	Tr	0	7	Tr(6 gr)
173-MA-00SA	0	0	0	0	0	0	0	0	0	0	0	Tr	0	Tr	0	0	Tr	0
175-MA-00SA	0	0	0	0	0	0	0	0	0	0	0	0	0	Tr	0	0	0.5	0
177-MA-00SA	0	0	Tr(1 gr)	Tr	0	0	0	0	0	0	0	Tr	Tr	Tr	Tr	0	Tr	0
179-MA-00SA	0	0	0	0	0	0	0	0	0	Tr (9 gr)	Tr(2 gr)	Tr	0	7	0	0	15	0
181-MA-00SA	0	0	Tr(6 gr)	0	0	0	0	0	0	Tr (11 gr)	0	Tr	Tr	4	Tr	15	7	Tr(2 gr)
183-MA-00SA	0	0	Tr(5 gr)	0	0	0	0	0	0	0	0	Tr	Tr	1	0	Tr	2	0
185-MA-00SA	0	0	0	0	0	0	0	0	0	Tr(3 gr)	0	Tr	Tr	4	Tr	Tr	8	Tr(3 gr)
187-MA-00SA	0	0	Tr(~15 gr)	Tr	0	0	0	0	0	Tr(2 gr)	0	Tr	Tr	Tr	0	Tr	Tr	Tr(1 gr)
189-MA-00SA	0	0	Tr(~15 gr)	Tr	0	0	0	0	0	0	0	Tr	0	6	Tr	Tr	4	Tr(2 gr)
191-MA-00SA	0	0	Tr(~40 gr)	Tr	0	0	Tr(1gr)	Tr(1gr)	0	0	0	Tr	Tr	Tr	0	3	2	Tr(7 gr)

Sample Number	Metamorphic Massive Sulphide Indicator Mineral Percentages																	
	Cpy	Moly	Py	Gth	Sp	Cor	Mn-Epi	Uva	Cr-Gros	low Cr-Diop	RedRut	Ky	Sil	St	Sps	Fay	Opx	Chr
199-MA-00SA	0	0	0	0	0	0	0	0	0	Tr (5 gr)	0	Tr	0	2	Tr	Tr	7	Tr(5 gr)
201-MA-00SA	0	0	0	0	0	0	0	0	0	Tr(1 gr)	0	0	0	t	0	0	Tr	0
203-MA-00SA	0	0	Tr(1 gr)	0	0	0	0	0	0	Tr (1 gr)	0	Tr	0	Tr	Tr	0	0	Tr
205-MA-00SA	0	0	Tr(5 gr)	0.5	0	0	0	0	0	0	Tr(2 gr)	Tr	Tr	7	Tr	0	Tr	Tr(3 gr)
207-MA-00SA	0	0	Tr(15 gr)	0	0	0	0	0	0	Tr (4 gr)	0	Tr	0	Tr	Tr	0	1	0
209-MA-00SA	Tr(7 gr)	0	Tr(5 gr)	0	0	0	0	0	0	Tr(13 gr)	0	Tr	0	2	Tr	0	Tr	Tr(5 gr)
211-MA-00SA	0	0	0	0	0	0	0	0	0	Tr (2 gr)	0	Tr	0	Tr	Tr	0	Tr	Tr(30 gr)
213-MA-00SA	0	0	0	0	0	0	0	0	0	Tr(5 gr)	0	Tr	Tr	Tr	Tr	0	Tr	0
215-MA-00SA	0	0	0	0	0	0	0	0	0	Tr(2 gr)	0	Tr	0	Tr	Tr	Tr	20	Tr(1 gr)
217-MA-00SA	Tr(1 gr)	0	0	0	0	0	0	0	0	Tr (3 gr)	0	Tr	0	Tr	0	Tr	30	0
219-MA_00SA	0	0	0	0	0	0	0	0	0	0	0	0	Tr	Tr	0	0	5	0
221-MA-00SA	Tr(2 gr)	0	Tr(~15 gr)	Tr	0	0	0	0	0	Tr (1 gr)	0	Tr	Tr	Tr	0	Tr	3	0
223-MA-00SA	0	0	0	0	0	0	0	0	0	0	0	Tr	0	Tr	0	0	Tr	0
225-MA-00SA	0	0	Tr(5 gr)	0	0	0	0	0	0	Tr (8 gr)	0	Tr	0	Tr	Tr	0	Tr	Tr(9 gr)
227-MA-00SA	0	0	0	0	0	0	0	0	0	0	0	Tr	0	0	0	0	Tr	0
229-MA-00SA	0	0	0	Tr	2 green gahnite	0	0	0	0	Tr (1 gr)	0	Tr	0	Tr	Tr	0	1	Tr(3 gr)
231-MA-00SA	0	0	0	0	0	0	0	0	0	0	0	Tr	0	Tr	0	0	0	0
233-MA-00SA	0	0	Tr(3 gr)	0	1 pale blue	0	0	0	0	Tr (10 gr)	0	Tr	0	Tr	Tr	0	Tr	Tr(6 gr)
235-MA-00SA	0	0	0	0	0	0	0	0	0	0	0	0	0	Tr	0	0	0	0
237-MA-00SA	0	0	Tr(~15 gr)	0	0	0	0	0	0	Tr (1 gr)	0	Tr	0	Tr	0	0	5	0
239-MA-00SA	Tr(2 gr)	0	Tr5 gr)	Tr	0	0	0	0	0	Tr (7 gr)	0	Tr	0	Tr	Tr	0	8	Tr(9 gr)
241-MA-00SA	0	0	0	0	0	0	0	0	0	Tr (1 gr)	0	0	0	0	Tr	0	0	Tr(2 gr)
243-MA-00SA	Tr(1 gr)	0	0.5(~150 gr)	0	0	0	0	0	0	Tr (4 gr)	0	Tr	0	Tr	0	0	0	Tr(~10 gr)
245-MA-00SA	Tr(1 gr)	0	Tr(~30)	0	0	0	Tr(1 gr)	0	0	Tr (13 gr)	0	1	0	1	Tr	0	0	Tr(1 gr)
247-MA-00SA	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0
249-MA-00SA	0	0	Tr(7 gr)	Tr	0	0	0	0	0	Tr (1 gr)	0	0	Tr	15	0	0	35	Tr(4 gr)
251-MA-00SA	0	0	0	Tr	0	0	0	0	0	0	0	0	Tr	1	10	0	0	Tr(2 gr)
253-MA-00SA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Tr	0
255-MA-00SA	0	0	Tr(10 gr)	0	0	0	0	0	0	Tr (2 gr)	0	Tr	0	Tr	0	0	0	0
257-MA-00SA	0	0	0	0	0	0	0	0	0	0	0	Tr	0	2	0	0	0	Tr(1 gr)
263-MA-00SA	0	0	0	0	0	0	0	0	0	Tr(1 gr)	0	0	0	1	Tr	0	Tr	Tr(4 gr)

Sample Number	Metamorphic Massive Sulphide Indicator Mineral Percentages																	
	Cpy	Moly	Py	Gth	Sp	Cor	Mn-Epi	Uva	Cr-Gros	low Cr-Diop	RedRut	Ky	Sil	St	Sps	Fay	Opx	Chr
267-MA-00SA	0	Tr(4 gr)	0	0	1 blue gahnite	0	0	0	0	Tr (4 gr)	0	Tr	0	Tr	0	0	0	Tr(6 gr)
269-MA-00SA	0	0	0	0	0	0	0	0	0	0	0	0	0	Tr	0	0	2	0
271-MA-00SA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
273-MA-00SA	0	0	0	0	0	0	0	0	0	0	0	0	0	Tr	0	0	Tr	0
275-MA-00SA	0	0	0	0	0	0	0	0	0	0	0	0	0	Tr	Tr	0	0	0
277-MA-00SA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
279-MA-00SA	0	0	Tr(~75 gr)	0	0	0	0	0	0	0	0	Tr	0	2	0	Tr	2	Tr(1 gr)
281-MA-00SA	0	0	3(~40 gr)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
283-MA-00SA	0	0	0	0	0	0	0	0	0	0	0	0	0	Tr	0	0	30	0
285-MA-00SA	Tr(1 gr)	0	Tr(~30 gr)	0	0	0	0	0	0	Tr(2 gr)	0	Tr	Tr	Tr	0	0	5	Tr(2 gr)
287-MA-00SA	0	0	Tr(5 gr)	0	0	0	0	0	0	0	0	0	0	Tr	0	0	0	0
289-MA-00SA	0	0	0	0	0	0	0	0	0	0	0	0	0	Tr	0	0	1	0
291-MA-00SA	0	0	Tr(8 gr)	Tr	1 blue-green gahnite	0	0	0	0	0	0	Tr	0	Tr	Tr	0	10	Tr(5 gr)
293-MA-00SA	0	0	Tr(6 gr)	0	0	0	0	0	0	Tr (7 gr)	0	Tr	0	Tr	0	0	Tr	0
295-MA-00SA	0	0	Tr(2 gr)	Tr	0	0	0	0	0	0	0	Tr	0	Tr	Tr	0	Tr	0
297-MA-00SA	0	0	Tr(~10 gr)	0	0	0	0	0	0	Tr (9 gr)	Tr(2 gr)	0	0	Tr	0	0	Tr	0
299-MA-00SA	0	0	0	0	0	0	0	0	0	Tr (2 gr)	0	0	0	0	0	0	Tr	0
301-MA-00SA	0	0	0	0	0	Tr sapphire (1 gr)	0	0	0	Tr (6 gr)	0	Tr	0	Tr	0	0	Tr	0
303-MA-00SA	Tr(1 gr)	0	Tr(~40 gr)	0	0	0	0	0	0	Tr (5 gr)	0	Tr	0	Tr	Tr	0	Tr	0
305-MA-00SA	0	0	0	0	0	0	0	0	0	Tr(5 gr)	0	Tr	0	Tr	Tr	0	Tr	0
307-MA-00SA	0	Tr(2 gr)	Tr(~50 gr)	0	0	0	0	0	0	0	0	0	0	Tr	0	0	Tr	0
309-MA-00SA	0	0	0	0	0	0	0	0	0	0	0	Tr	0	Tr	0	0	Tr	0
315-MA-00SA	0	0	0	0	0	0	0	0	0	0	0	Tr	0	0	0	0	Tr	0
317-MA-00SA	0	0	Tr(3 gr)	Tr	0	0	0	0	0	Tr (1 gr)	0	Tr	0	Tr	Tr	0	Tr	0
319-MA-00SA	0	0	0	0	0	0	0	0	0	Tr (2 gr)	0	Tr	0	Tr	0	0	Tr	0
321-MA-00SA	0	Tr(4 gr)	Tr(~45 gr)	0	0	0	0	0	0	0	0	Tr	0	Tr	Tr	0	Tr	0
323-MA-00SA	0	0	0	0	0	0	0	0	0	0	0	Tr	0	0	0	0	0	0
325-MA-00SA	0	0	Tr(5 gr)	0	0	0	0	0	0	0	0	Tr	0	0	0	0	Tr	0
327-MA-00SA	0	0	0	0	0	0	0	0	0	0	0	Tr	0	Tr	0	0	0	0

Sample Number	Metamorphic Massive Sulphide Indicator Mineral Percentages																	
	Cpy	Moly	Py	Gth	Sp	Cor	Mn-Epi	Uva	Cr-Gros	low Cr-Diop	RedRut	Ky	Sil	St	Sps	Fay	Opx	Chr
329-MA-00SA	0	Tr(1 gr)	Tr(~40 gr)	0	0	0	0	0	0	0	0	Tr	0	Tr	Tr	0	Tr	0
331-MA-00SA	0	0	Tr(~20 gr)	0	0	0	0	0	0	0	0	Tr	0	Tr	0	0	Tr	0
333-MA-00SA	0	0	0	0	0	0	0	0	0	Tr(2 gr)	0	Tr	0	0	Tr	0	0	0
335-MA-00SA	0	0	0	0	0	0	0	0	0	0	0	Tr	0	0	0	0	Tr	0
337-MA-00SA	0	0	Tr(1 gr)	0	0	0	0	0	0	0	0	Tr	0	9	0	0	0	Tr(1 gr)
339-MA-00SA	0	0	0	0	0	0	0	0	0	0	0	0	0	Tr	0	0	Tr	0
341-MA-00SA	0	0	0	0	0	0	0	0	0	0	0	0	0	Tr	Tr	0	Tr	0
343-MA-00SA	0	0	0	Tr	0	0	0	0	0	0	0	Tr	0	Tr	Tr	0	Tr	0
345-MA-00SA	0	0	0	0	0	0	0	0	0	0	0	Tr	0	2	0	0	0	0
347-MA-00SA	Tr(18 gr)	Tr(1 gr)	1(~300 gr)	0	0	0	0	0	0	Tr (1 gr)	Tr(3 gr)	Tr	0	3	0	0	0	0
349-MA-00SA	0	Tr(1 gr)	0	0	0	0	0	0	0	0	Tr(1 gr)	Tr	0	Tr	Tr	0	Tr	0
351-MA-00SA	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	5	0
353-MA-00SA	0	0	0	0	0	0	0	0	0	Tr(3 gr)	0	Tr	Tr	1	Tr	0	2	0
355-MA-00SA	0	0	Tr(3 gr)	0	0	0	0	0	0	0	0	Tr	0	3	0	0	Tr	0
357-MA-00SA	0	0	0	0	0	0	0	0	0	0	0	Tr	0	Tr	Tr	0	Tr	0
359-MA-00SA	0	0	0	0	0	0	0	0	0	Tr (1 gr)	Tr(1 gr)	Tr	0	5	0	0	Tr	0
361-MA-00SA	0	0	Tr(~20 gr)	0	0	0	0	0	0	Tr (1 gr)	Tr(1 gr)	Tr	0	4	Tr	0	0	0
363-MA-00SA	0	Tr(7 gr)	Tr(~20 gr)	0	0	0	0	0	0	0	Tr(1 gr)	0	0	1	Tr	0	0	Tr(1 gr)
365-MA-00SA	0	Tr(3 gr)	2(~500 gr)	0	0	0	0	0	0	0	0	0	0	1	0	0	Tr	0
367-MA-00SA	Tr(1 gr)	Tr(2 gr)	0.5(~150 gr)	Tr	0	0	0	0	0	Tr(1 gr)	Tr(7 gr)	0	0	8	Tr	0	0	Tr(6 gr)
369-MA-00SA	0	0	Tr(~15 gr)	0	0	0	Tr(1 gr)	0	0	0	Tr(~40 gr)	Tr	0.5	2	0	0	0	0
371-MA-00SA	0	0	Tr(~35 gr)	0	0	0	0	0	0	0	0	Tr	Tr	Tr	Tr	0	0	0
373-MA-00SA	0	Tr(1 gr)	Tr(3 gr)	0	0	0	Tr(2 gr)	0	0	0	Tr(6 gr)	Tr	Tr	Tr	0	0	0	0
375-MA-00SA	0	0	Tr(5 gr)	0	0	0	0	0	0	Tr (1 gr)	0	Tr	Tr	Tr	Tr	0	0	0
377-MA-00SA	0	0	Tr(1 gr)	0	0	0	0	0	0	0	0	Tr	0	1	0	0	0	Tr(1 gr)
383-MA-00SA	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0	Tr	0
385-MA-00SA	0	0	Tr(~50 gr)	0	0	0	Tr(1 gr)	0	0	Tr (1 gr)	Tr(7 gr)	1	0	Tr	0	0	Tr	0
387-MA-00SA	0	0	0	0	0	0	Tr(3 gr)	0	0	Tr (1 gr)	Tr(2 gr)	5	Tr	2	Tr	0	0	0
389-MA-00SA	0	0	0	0	0	0	0	0	0	0	0	Tr	0	2	0	0	0	0
391-MA-00SA	0	0	0	0	0	0	0	0	0	0	0	1	0	1	Tr	0	0	0

Sample Number	Metamorphic Massive Sulphide Indicator Mineral Percentages																	
	Cpy	Moly	Py	Gth	Sp	Cor	Mn-Epi	Uva	Cr-Gros	low Cr-Diop	RedRut	Ky	Sil	St	Sps	Fay	Opx	Chr
395-MA-00SA	0	Tr(2 gr)	Tr(3 gr)	0	0	0	0	0	0	0	Tr(4 gr)	1	Tr	Tr	Tr	0	0	0
397-MA-00SA	0	Tr(1 gr)	0	0	0	0	0	0	0	0	Tr(1 gr)	2	0	Tr	0	0	0	0
399-MA-00SA	0	0	2(~400 gr)	Tr	0	0	0	0	Tr(2 gr)	Tr (2 gr)	Tr(2 gr)	Tr	Tr	2	Tr	5	0	Tr(6 gr)
401-MA-00SA	0	Tr(1 gr)	Tr(~20 gr)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
403-MA-00SA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Tr	0	50	Tr(2 gr)
405-MA-00SA	Tr(2 gr)	0	1(~400 gr)	0	0	0	0	0	0	Tr(2 gr)	0	0	0	1	0	Tr	2	Tr(2 gr)
407-MA-00SA	Tr(2 gr)	0	0.2(~80 gr)	0	0	0	0	0	0	Tr (11 gr)	0	Tr	0	2	0	0	0.5	Tr(1 gr)
409-MA-00SA	Tr(1 gr)	0	0	0	0	0	Tr(2 gr)	0	0	Tr(10 gr)	0	Tr	Tr	4	0	Tr	2	Tr(3 gr)
411-MA-00SA	Tr(1 gr)	0	0.5(~200 gr)	0	0	0	0	0	0	Tr (2 gr)	0	0	Tr	5	Tr	0	10	Tr(2 gr)
413-MA-00SA	0	0	0	0	1 pink-purple	0	0	0	0	Tr(7 gr)	0	0	Tr	2	0	0	Tr	Tr(1 gr)
415-MA-00SA	0	0	0.1(~40 gr)	0	0	0	0	0	0	Tr (1 gr)	0	0	0	2	Tr	10	5	0
417-MA-00SA	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	20	0
419-MA-00SA	0	0	0	0	0	0	0	0	0	Tr (4 gr)	0	0	0	2	0	0	Tr	0
421-MA-00SA	0	0	0	0	0	0	0	0	0	Tr (1 gr)	0	0	0	Tr	0	0	6	Tr(1 gr)
423-MA-00SA	0	0	0	0	0	0	0	0	0	Tr(9 gr)	0	0	0	1	Tr	0	5	Tr(~35 gr)
425-MA-00SA	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	Tr	0
427-MA-00SA	0	0	0	0	0	0	0	0	0	Tr(1 gr)	0	Tr	0	4	0	0	2	Tr(1 gr)
429-MA-00SA	0	0	0	0	0	0	0	0	0	Tr(18 gr)	0	0	Tr	2	Tr	0	4	Tr(3 gr)
431-MA-00SA	0	Tr(1 gr)	Tr(~20 gr)	0	0	0	0	0	0	Tr (~40 gr)	Tr(1 gr)	0	Tr	3	Tr	0	10	Tr(10 gr)
433-MA-00SA	0	0	0	0	0	Tr(2 gr-ruby)	0	0	0	Tr(12 gr)	0	0	Tr	Tr	Tr	0	2	Tr(~10 gr)
435-MA-00SA	Tr(1 gr)	0	Tr(~20 gr)	0	0	0	0	0	0	Tr (2 gr)	Tr(1 gr)	Tr	Tr	1	Tr	0	Tr	Tr(16 gr)
437-MA-00SA	Tr(1 gr)	0	0	0	0	0	0	0	0	0	0	0	0	Tr	0	0	85	0
443-MA-00SA	0	0	Tr(~20 gr)	0	0	0	0	0	0	Tr(2 gr)	0	Tr	0	Tr	0	0	20	Tr(~20 gr)
445-MA-00SA	0	0	0	0	0	0	0	0	0	0	0	Tr	0	0	0	0	0	0
447-MA-00SA	Tr(1 gr)	0	1(~150 gr)	0	0	0	0	0	0	0	0	Tr	0	6	0	0	1	0
449-MA-00SA	0	0	0	0	0	0	0	0	0	0	0	Tr	0	Tr	0	0	0	0
451-MA-00SA	Tr(2 gr)	0	Tr(~20 gr)	0	0	0	Tr(1gr)	0	0	0	0	Tr	0	1	0	0	Tr	0
453-MA-00SA	0	0	0	0	0	0	0	0	0	Tr(2 gr)	0	Tr	0	3	Tr	0	Tr	0

Sample Number	Metamorphic Massive Sulphide Indicator Mineral Percentages																
	Cpy	Moly	Py	Gth	Sp	Cor	Mn-Epi	Uva	Cr-Gros	low Cr-Diop	RedRut	Ky	Sil	St	Sps	Fay	Opx	Chr
459-MA-00SA	0	0	Tr(7 gr)	0	0	0	0	0	0	0	0	Tr	0	Tr	Tr	0	Tr	0
461-MA-00SA	0	0	Tr(1 gr)	0	0	0	0	0	0	0	0	Tr	Tr	Tr	0	0	0	Tr(1 gr)
465-MA-00SA	0	0	Tr(10 gr)	0	0	0	0	0	0	0	Tr(3 gr)	7	Tr	4	0	0	0	0
463-MA-00SA	0	0	0	0	0	0	0	0	0	0	0	2	0	Tr	0	0	0	0
463-MA-00SA & 465-MA-00SA	0	Tr(1 gr)	T(3 gr)	0	0	0	0	0	0	0	Tr(2 gr)	1	0	3	0	0	0	0
467-MA-00SA	0	0	2(~500 gr)	0	0	0	0	0	0	0	0	1	Tr	8	Tr	0	Tr	Tr(7 gr)
469-MA-00SA	0	Tr(2 gr)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
471-MA-00SA	0	Tr(1 gr)	Tr(~35 gr)	0	0	0	0	0	0	Tr (1 gr)	0	Tr	0	0	0	0	0	Tr(5 gr)
473-MA-00SA	0	0	Tr(5 gr)	0	0	0	0	0	0	0	0	Tr	0	4	Tr	0	0	0
475-MA-00SA	0	0	0	0	0	0	0	0	0	0	0	Tr	0	4	0	0	0	0
477-MA-00SA	0	0	Tr(~15 gr)	0	0	0	0	0	0	Tr (2 gr)	Tr(5 gr)	1	Tr	10	Tr	0	0	Tr(1 gr)
479-MA-00SA	0	0	0	Tr	0	0	0	0	0	Tr(1 gr)	0	Tr	Tr	4	0	0	0	Tr(3 gr)
481-MA-00SA	Tr(2 gr)	Tr(3 gr)	Tr(5 gr)	0	0	0	0	0	0	Tr (3 gr)	Tr(8 gr)	Tr	0	Tr	0	0	0	0
483-MA-00SA	0	0	Tr(3 gr)	Tr	0	0	0	0	0	0	0	Tr	0	3	Tr	0	0	0
485-MA-00SA	0	0	0	Tr	0	0	0	0	0	0	0	0	0	2	0	0	0	0
487-MA-00SA	0	0	0	0	0	0	0	0	0	Tr (5 gr)	0	0	0	2	0	0	0	0
489-MA-00SA	Tr(1 gr)	0	Tr(5 gr)	0	0	0	0	0	0	Tr(1 gr)	0	0	0	1	Tr	0	0	Tr(~20 gr)
491-MA-00SA	Tr(1 gr)	0	Tr(~20 gr)	0	0	0	0	0	0	Tr(1 gr)	0	Tr	Tr	1	0	Tr	0	0
493-MA-00SA	0	0	0	0	0	0	0	0	0	Tr(16 gr)	0	Tr	Tr	3	0	0	0	Tr(5 gr)
495-MA-00SA	0	0	0	0	0	0	0	0	0	Tr (6 gr)	0	0	Tr	4	0	0	0	0
497-MA-00SA	0	0	0	Tr	0	0	0	0	0	0	Tr(1 gr)	Tr	0	2	Tr	0	0	0
503-MA-00SA	0	0	0	0	0	0	0	0	0	Tr (3 gr)	Tr(6 gr)	1	0	10	0	0	Tr	0
505-MA-00SA	Tr(2 gr)	0	Tr(~25 gr)	0	0	0	0	0	0	Tr(1 gr)	Tr(1 gr)	Tr	0	8	0	0	0	0
507-MA-00SA	0	Tr(8 gr)	3(~400 gr)	0	0	0	0	0	0	0	0	0	Tr	2	0	0	0	Tr(2 gr)
509-MA-00SA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
511-MA-00SA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
513-MA-00SA	0	0	0	0	0	0	0	0	0	0	0	Tr	0	2	0	0	0	0
515-MA-00SA	0	0	0	0	0	0	0	0	0	0	0	Tr	0	1	0	0	0	0

Appendix I

Pebble Lithology Counts

Summary List Of Abbreviations

HSG:	Huronian Supergroup	UNK:	Unknown
FI:	Felsic Intrusive	VOL:	Volcanics
MI:	Mafic Intrusive	INTR:	Intrusives
MIG:	Migmatite	SEDS:	Sediments
GN:	Gneiss	META:	Metamorphics
MV:	Metavolcanic		
MUI:	Mafic & Ultramafic Intrusive		
Carb:	Carbonate		
OTH:	other		

Rock Type: describes that which is present where the sample was taken

Sample	Rock Type	FI %	MIG %	GN %	MI %	MUI %	MV %	HSG%	Carb %	OTH %	UNK%	Tot VOL	Tot INTR	Tot SEDS	Tot META
MA-3-00SA	HSG	17	0	9	0	0	2	72	0	0	0	2	17	72	9
MA-5-00SA	FI	40	0	0	0	0	0	60	0	0	0	0	40	60	0
MA-7-00SA	HSG	36	0	0	2	0	52	8	2	0	0	52	38	8	0
MA-9-00SA	HSG	22	0	27	0	0	24	24	0	4	0	24	22	24	27
MA-11-00SA	HSG	26	0	19	0	4	21	23	2	6	0	21	30	23	19
MA-17-00SA	HSG	22	0	11	0	9	0	58	0	0	0	0	31	58	11
MA-23-00SA	FI	40	0	12	0	0	4	44	0	0	0	4	40	44	12
MA-25-00SA	FI	6	0	8	0	0	72	15	0	0	0	72	6	15	8
MA-27-00SA	FI	22	2	0	4	20	29	22	0	0	0	29	47	22	2
MA-29-00SA	FI	12	0	2	0	20	2	63	0	2	0	2	31	63	2
MA-31-00SA	MI	0	0	8	0	19	25	44	0	4	0	25	19	44	8
MA-33-00SA	FI	13	0	0	0	9	9	69	0	0	0	9	22	69	0
MA-37-00SA	MV	38	0	0	2	12	0	46	0	2	0	0	52	46	0
MA-39-00SA	FI	9	0	7	0	19	15	48	2	0	0	15	28	48	7
MA-41-00SA	FI	63	0	7	0	5	5	12	9	0	0	5	67	12	7
MA-43-00SA	FI	49	2	3	5	6	16	17	0	2	0	16	60	17	5
MA-45-00SA	FI	17	28	10	7	14	21	3	0	0	0	21	38	3	38
MA-47-00SA	HSG	4	0	0	0	4	80	13	0	0	0	80	7	13	0
MA-53-00SA	FI	90	0	2	0	0	2	6	0	0	0	2	90	6	2
MA-57-00SA	FI	27	0	5	0	0	31	35	0	2	0	31	27	35	5
MA-59-00SA	FI	42	0	0	0	0	22	25	0	11	0	22	42	25	0
MA-61-00SA	FI	49	2	0	0	9	21	13	0	6	0	21	58	13	2
MA-65-00SA	FI	16	0	9	18	29	15	13	0	0	0	15	64	13	9
MA-69-00SA	MV	6	0	0	0	6	31	58	0	0	0	31	12	58	0
MA-71-00SA	MV	6	0	13	2	0	76	4	0	0	0	76	7	4	13
MA-79-00SA	FI	22	0	15	0	17	26	17	2	2	0	26	39	17	15
MA-81-00SA	HSG	16	0	0	0	0	0	84	0	0	0	0	16	84	0
MA-83-00SA	MI/HSG	6	0	0	8	0	37	50	0	0	0	37	13	50	0
MA-85-00SA	MI	21	0	0	32	34	7	5	0	0	0	7	88	5	0
MA-87-00SA	MV	8	0	26	30	8	15	13	0	0	0	15	45	13	26
MA-89-00SA	FI	26	0	2	10	10	16	34	0	2	0	16	46	34	2
MA-93-00SA	MV	17	2	6	6	0	42	28	0	0	0	42	23	28	8
MA-97-00SA	HSG	14	0	2	0	0	16	68	0	0	0	16	14	68	2

Sample	Rock Type	FI %	MIG %	GN %	MI %	MUI %	MV %	HSG%	Carb %	OTH %	UNK%	Tot VOL	Tot INTR	Tot SEDS	Tot META
MA-101-00SA	HSG	5	0	0	0	0	0	95	0	0	0	0	5	95	0
MA-103-00SA	HSG	20	0	0	5	5	34	36	0	0	0	34	31	36	0
MA-105-00SA	MI	34	0	0	0	5	0	61	0	0	0	0	39	61	0
MA-115-00SA	MIG	6	0	55	0	0	19	0	0	19	0	19	6	0	55
MA-117-00SA	MIG	21	0	50	10	0	19	0	0	0	0	19	31	0	50
MA-119-00SA	MIG	41	0	6	4	0	15	35	0	0	0	15	44	35	6
MA-121-00SA	MIG	0	0	50	0	0	6	0	0	44	0	6	0	0	50
MA-123-00SA	MIG	3	11	53	5	0	24	5	0	0	0	24	8	5	63
MA-125-00SA	MIG	19	5	21	10	0	40	5	0	0	0	40	29	5	26
MA-127-00SA	MIG	23	0	32	4	0	18	25	0	0	0	18	26	25	32
MA-129-00SA	MIG	36	0	25	11	0	9	18	0	0	0	9	47	18	25
MA-131-00SA	MV	31	0	24	15	0	19	11	0	0	0	19	46	11	24
MA-135-00SA	HSG	19	0	16	0	0	0	65	0	0	0	0	19	65	16
MA-137-00SA	HSG	20	0	0	4	0	15	62	0	0	0	15	24	62	0
MA-139-00SA	HSG	15	0	13	0	0	13	58	0	0	0	13	15	58	13
MA-141-00SA	HSG	27	0	23	2	0	0	48	0	0	0	0	30	48	23
MA-143-00SA	HSG	19	0	0	11	0	6	64	0	0	0	6	30	64	0
MA-145-00SA	MI	12	0	0	0	0	74	14	0	0	0	74	12	14	0
MA-147-00SA	MI/HSG	13	0	0	18	0	9	60	0	0	0	9	31	60	0
MA-149-00SA	HSG	0	0	0	0	0	82	18	0	0	0	82	0	18	0
MA-151-00SA	MI/HSG	16	7	0	31	20	18	7	0	0	0	18	67	7	7
MA-153-00SA	MI/HSG	33	0	0	19	0	19	29	0	0	0	19	52	29	0
MA-155-00SA	HSG	10	0	2	13	6	35	35	0	0	0	35	29	35	2
MA-157-00SA	HSG	31	0	0	19	0	31	19	0	0	0	31	50	19	0
MA-161-00SA	HSG	13	0	0	3	0	79	5	0	0	0	79	16	5	0
MA-163-00SA	HSG	22	0	0	0	0	2	76	0	0	0	2	22	76	0
MA-167-00SA	MI	16	0	20	18	0	0	45	0	0	0	0	34	45	20
MA-171-00SA	MIG	30	0	14	3	14	30	11	0	0	0	30	46	11	14
MA-181-00SA	MI	20	0	2	0	0	44	33	0	0	0	44	20	33	2
MA-183-00SA	HSG	34	0	0	0	0	25	42	0	0	0	25	34	42	0
MA-185-00SA	HSG	24	0	22	0	0	22	33	0	0	0	22	24	33	22
MA-187-00SA	MI/HSG	28	5	0	26	0	25	16	0	0	0	25	54	16	5
MA-189-00SA	FI	53	0	0	4	4	18	20	0	0	0	18	61	20	0
MA-191-00SA	FI	41	0	0	11	9	23	16	0	0	0	23	61	16	0

Sample	Rock Type	FI %	MIG %	GN %	MI %	MUI %	MV %	HSG%	Carb %	OTH %	UNK%	Tot VOL	Tot INTR	Tot SEDS	Tot META
MA-197-00SA	HSG	20	0	0	0	8	27	45	0	0	0	27	27	45	0
MA-199-00SA	MI	24	4	0	0	5	36	31	0	0	0	36	29	31	4
MA-201-00SA	HSG	0	0	74	0	15	0	11	0	0	0	0	15	11	74
MA-207-00SA	FI	27	15	21	1	7	4	24	0	0	0	4	36	24	36
MA-209-00SA	FI	19	0	20	2	0	9	50	0	0	0	9	20	50	20
MA-211-00SA	MI/FI	16	2	0	0	0	50	32	0	0	0	50	16	32	2
MA-213-00SA	MI	5	0	17	0	10	40	28	0	0	0	40	16	28	17
MA-215-00SA	MI	11	0	2	9	0	42	37	0	0	0	42	19	37	2
MA-217-00SA	MI	16	4	2	0	0	45	33	0	0	0	45	16	33	6
MA-221-00SA	MI	38	0	0	15	0	10	37	0	0	0	10	54	37	0
MA-223-00SA	HSG	22	0	0	11	0	40	24	0	2	0	40	33	24	0
MA-229-00SA	HSG	60	0	0	0	8	17	15	0	0	0	17	68	15	0
MA-231-00SA	HSG	31	0	6	13	0	0	50	0	0	0	0	44	50	6
MA-233-00SA	HSG	48	0	0	0	3	17	31	0	0	0	17	52	31	0
MA-237-00SA	HSG	17	0	0	0	0	17	64	0	2	0	17	17	64	0
MA-239-00SA	MV	13	0	38	25	0	0	16	0	7	0	0	38	16	38
MA-243-00SA	HSG/MV/ FI	51	0	0	0	4	40	0	0	4	0	40	56	0	0
MA-249-00SA	MV	6	0	0	0	11	50	33	0	0	0	50	17	33	0
MA-251-00SA	FI	18	0	0	12	6	0	65	0	0	0	0	35	65	0
MA-255-00SA	FI	24	0	20	4	31	9	11	0	2	0	9	58	11	20
MA-263-00SA	MIG	40	0	19	11	0	19	11	0	0	0	19	51	11	19
MA-265-00SA	MIG	54	0	17	0	2	19	9	0	0	0	19	56	9	17
MA-267-00SA	MIG	19	15	19	0	7	19	20	0	2	0	19	26	20	33
MA-269-00SA	MIG	17	0	0	7	0	27	50	0	0	0	27	23	50	0
MA-279-00SA	MIG	17	21	25	0	6	13	19	0	0	0	13	23	19	45
MA-283-00SA	MIG	0	0	29	71	0	0	0	0	0	0	0	71	0	29
MA-285-00SA	MIG	16	0	49	12	6	0	18	0	0	0	0	33	18	49
MA-287-00SA	FI	8	8	69	11	0	3	0	0	0	0	3	19	0	78
MA-291-00SA	MIG	0	15	12	12	0	25	37	0	0	0	25	12	37	27
MA-295-00SA	MIG	0	0	43	0	12	22	24	0	0	0	22	12	24	43
MA-297-00SA	MIG	0	0	59	0	0	41	0	0	0	0	41	0	0	59
MA-303-00SA	MIG	25	2	7	0	0	49	15	0	2	0	49	25	15	9
MA-307-00SA	MIG	46	7	21	0	0	14	11	0	0	0	14	46	11	29

Sample	Rock Type	FI %	MIG %	GN %	MI %	MUI %	MV %	HSG%	Carb %	OTH %	UNK%	Tot VOL	Tot INTR	Tot SEDS	Tot META
MA-311-00SA	MIG	11	11	40	0	2	35	0	0	2	0	35	13	0	51
MA-315-00SA	MIG	15	0	40	0	10	12	19	0	4	0	12	25	19	40
MA-317-00SA	MIG	45	0	5	0	10	21	17	0	2	0	21	55	17	5
MA-321-00SA	MIG	20	0	38	0	7	10	18	0	0	8	10	26	18	38
MA-323-00SA	MIG	0	0	100	0	0	0	0	0	0	0	0	0	0	100
MA-325-00SA	MIG	25	0	50	0	0	0	25	0	0	0	0	25	25	50
MA-329-00SA	MIG	0	12	36	0	10	16	26	0	0	0	16	10	26	48
MA-331-00SA	MIG	12	0	24	10	2	38	12	0	2	0	38	24	12	24
MA-335-00SA	MIG	2	0	80	0	0	0	0	0	18	0	0	2	0	80
MA-337-00SA	MIG	11	0	11	0	67	11	0	0	0	0	11	78	0	11
MA-349-00SA	MIG	21	0	56	10	6	6	0	0	2	0	6	37	0	56
MA-353-000SA	MIG	4	0	24	0	12	27	31	0	2	0	27	16	31	24
MA-355-00SA	MIG	4	11	35	0	2	20	29	0	0	0	20	5	29	45
MA-357-00SA	MIG	5	19	42	0	0	2	25	0	7	0	2	5	25	61
MA-361-00SA	MIG	5	60	9	0	2	16	7	0	2	0	16	7	7	69
MA-363-00SA	MIG	2	0	73	0	0	24	0	0	0	0	24	2	0	73
MA-365-00SA	MIG	2	0	85	0	8	0	5	0	0	0	0	10	5	85
MA-367-00SA	MIG	4	6	56	4	0	4	24	0	4	0	4	7	24	61
MA-369-00SA	MIG	5	15	65	0	0	7	7	0	0	0	7	5	7	80
MA-371-00SA	MIG	3	16	67	0	0	8	0	0	7	0	8	3	0	83
MA-373-00SA	MIG	12	0	82	0	0	0	0	0	6	0	0	12	0	82
MA-375-00SA	MIG	8	6	12	6	0	45	22	0	0	0	45	14	22	18
MA-377-00SA	MIG	5	0	85	0	10	0	0	0	0	0	0	15	0	85
MA-379-00SA	MIG	2	0	96	0	2	0	0	0	0	0	0	4	0	96
MA-381-00SA	MIG	9	15	76	0	0	0	0	0	0	0	0	9	0	91
MA-385-00SA	MIG	0	0	86	0	0	12	0	0	2	0	12	0	0	86
MA-387-00SA	MIG	19	30	44	0	0	0	0	0	7	0	0	19	0	74
MA-393-00SA	MIG	9	0	66	0	21	2	0	0	2	0	2	30	0	66
MA-395-00SA	MIG	13	0	78	0	0	0	0	0	9	0	0	13	0	78
MA-397-00SA	MIG	0	12	79	0	0	4	0	0	4	0	4	0	0	91
MA-399-00SA	FI	76	0	0	2	0	0	22	0	0	0	0	78	22	0
MA-401-00SA	FI	0	0	100	0	0	0	0	0	0	0	0	0	0	100
MA-403-00SA	FI	19	0	15	0	8	15	42	0	2	0	15	26	42	15
MA-405-00SA	MIG	8	0	49	0	8	24	6	0	4	0	24	16	6	49

Sample	Rock Type	FI %	MIG %	GN %	MI %	MUI %	MV %	HSG%	Carb %	OTH %	UNK%	Tot VOL	Tot INTR	Tot SEDS	Tot META
MA-409-00SA	MIG	0	13	23	5	5	35	17	0	2	0	35	10	17	37
MA-411-00SA	MIG	0	14	49	0	8	18	10	0	0	0	18	8	10	63
MA-415-00SA	FI	27	0	19	0	12	42	0	0	0	0	42	39	0	19
MA-421-00SA	MV	13	0	19	0	0	6	60	0	2	0	6	13	60	19
MA-423-00SA	MV	20	0	34	0	0	20	25	0	2	0	20	20	25	34
MA-427-00SA	MIG	25	70	0	0	0	0	5	0	0	0	0	25	5	70
MA-435-00SA	FI	32	0	23	8	2	11	23	0	2	0	11	42	23	23
MA-437-00SA	FI	3	0	78	5	5	5	3	0	0	0	5	14	3	78
MA-439-0SSA	HSG	16	0	25	0	0	50	9	0	0	0	50	16	9	25
MA-441-00SA	MIG	13	0	2	39	0	44	2	0	0	0	44	52	2	2
MA-443-00SA	MI	5	0	0	27	36	32	0	0	0	0	32	68	0	0
MA-447-00SA	MIG	0	42	0	38	0	20	0	0	0	0	20	38	0	42
MA-451-00SA	MIG	0	0	84	0	0	8	4	0	4	0	8	0	4	84
MA-457-00SA	MIG	24	69	0	0	0	0	7	0	0	0	0	24	7	69
MA-461-00SA	MIG	12	61	20	0	2	0	4	0	0	0	0	14	4	82
MA-463-00SA	MIG	33	0	14	0	14	19	19	0	0	0	19	48	19	14
MA-465-00SA	MIG	2	81	0	17	0	0	0	0	0	0	0	19	0	81
MA-467-00SA	MIG	24	11	22	0	0	11	33	0	0	0	11	24	33	33
MA-469-00SA	MIG	0	100	0	0	0	0	0	0	0	0	0	0	0	100
MA-471-00SA	MIG	6	16	47	6	0	13	0	0	13	0	13	13	0	63
MA-475-00SA	MIG	4	1	79	0	7	0	7	0	3	0	0	11	7	80
MA-477-00SA	MIG	0	16	20	7	0	23	34	0	0	0	23	7	34	36
MA-481-00SA	MIG	16	20	14	18	0	20	10	0	0	0	20	35	10	35
MA-483-00SA	MIG	4	0	68	0	7	2	16	0	4	0	2	11	16	68
MA-489-00SA	FI	0	4	58	0	0	25	13	0	0	0	25	0	13	62
MA-499-00SA	MIG	0	39	39	2	0	10	10	0	0	0	10	2	10	78
MA-501-00SA	MIG	20	14	18	2	0	10	34	0	2	0	10	22	34	32
MA-503-00SA	MIG	7	28	21	12	0	9	21	0	2	0	9	19	21	49
MA-505-00SA	MIG	12	8	12	17	13	12	27	0	0	0	12	42	27	19
MA-507-00SA	MIG	19	0	43	0	10	29	0	0	0	0	29	29	0	43

Appendix J

Summary of Normalized Kimberlite Indicator Mineral Results

Summary list of Abbreviations

GP:	Pyrope Garnet	GAR:	garnet
GO:	Eclogitic Garnet	Cr:	chromium
DC:	Chrome Diopside	diop:	diopside
IM:	Ilmenite		
CR:	Chromite		
FO:	Forsteritic Olivine		
(p):	amount of grains picked from sample		
(e):	amount of grains estimated to be in sample		
tot:	total		

□ Total KIM Chromites include those that plot within the overlap field and are considered to possibly be of kimberlitic affinity

Sample Calculations

** Picked Estimate Normalization*

Example:
For sample MA-5-00SA 35 ilmenites were estimated to be present but only 20 ilmenites were removed. Microprobe analysis confirmed that 11 were kimberlitic. The normalization was calculation performed as follows:

$$\text{\# of normalized grains} = \frac{\text{(estimated \# of grains)}}{\text{(\# of picked grains)}} \times \text{(\# of confirmed KIMS)}$$

$$= \frac{35}{20} \times 11$$

$$= 19 \text{ grains}$$

*** Table feed weight normalization*

Example:
For sample MA-33-00SA, 28 ilmenites were confirmed as kimberlitic. The table feed was 2.8 kg and was normalized to a table feed of 11 kg, the average of the samples was calculated in the following way:

$$\text{\# of normalized grains} = \frac{\text{(11 kg)}}{\text{(table feed weight)}} \times \text{(\# of confirmed KIMS)}$$

$$= \frac{11}{2.8} \times 28$$

$$= 110 \text{ grains}$$

Sample	tot GP	tot GO	tot GAR	tot GP	tot GO	tot KIM GAR	tot crustal GAR	tot GAR	tot low cr-diop	tot low cr-diop	tot DC	tot diop	tot KIM CD	tot low cr-diop	tot diop	tot IM	tot IM	tot IM	tot KIM IM	tot crustal IM	tot IM	tot CR	tot CR	tot CR	tot KIM CR'	tot oth CR	tot CR
number	p	p	s	c	c	c	c	c	p	p(e)	p	s	c	c	c	p	p(e)	s	c	c	c	p	p(e)	s	c	c	c
1	1	0	1	4	0	4	0	4	0	n/a	0	0	0	0	0	1	n/a	1	1	0	1	1	n/a	1	1	0	1
3	2	3	6	2	3	5	1	6	2	n/a	0	2	0	2	2	6	n/a	6	5	1	6	7	n/a	7	4	1	5
5	21	11	32	12	15	27	3	30	1	n/a	1	2	1	1	2	20	35	19	11	6	17	8	n/a	8	9	0	9
7	4	2	7	3	4	7	0	7	5	n/a	0	5	0	5	5	1	n/a	1	1	0	1	8	n/a	8	7	1	8
9	0	0	0	0	0	0	0	0	1	n/a	0	1	0	1	1	0	n/a	0	0	0	0	0	n/a	0	0	0	0
11	13	3	16	12	7	19	0	19	3	n/a	0	3	2	1	3	31	46	31	27	3	30	13	n/a	13	13	0	13
13	0	0	0	0	0	0	0	0	28	n/a	0	28	2	26	28	0	n/a	0	0	0	0	1	n/a	1	1	0	1
15	0	0	0	0	0	0	0	0	0	n/a	0	0	0	0	0	0	n/a	0	0	0	0	0	n/a	0	0	0	0
17	1	0	2	1	1	2	0	2	3	n/a	1	4	1	3	4	5	n/a	5	2	4	6	6	n/a	6	4	0	4
19	0	0	0	0	0	0	0	0	0	n/a	0	0	0	0	0	0	n/a	0	0	0	0	0	n/a	0	0	0	0
21	0	0	0	0	0	0	0	0	0	n/a	0	0	0	0	0	0	n/a	0	0	0	0	0	n/a	0	0	0	0
23	2	3	5	2	3	5	0	5	5	n/a	4	5	0	5	5	15	50	29	24	1	25	6	n/a	6	7	0	7
25	0	5	5	1	4	5	0	5	1	n/a	0	1	0	1	1	3	n/a	3	0	0	3	0	n/a	0	0	0	0
27	5	5	12	5	1	6	6	12	30	n/a	1	31	2	29	31	24	55	25	6	16	22	19	30	19	21	0	21
29	3	1	4	3	1	4	0	4	2	n/a	1	2	0	2	2	0	n/a	2	0	3	0	10	n/a	10	9	0	9
31	3	3	6	3	3	6	0	6	3	n/a	0	3	1	2	3	5	n/a	6	5	5	10	15	n/a	15	10	0	10
33	2	1	3	2	1	3	0	3	1	n/a	0	1	0	1	1	36	n/a	44	28	16	44	11	n/a	11	10	0	10
35	1	3	4	1	3	4	0	4	1	n/a	2	3	2	1	3	0	n/a	0	0	0	0	2	n/a	2	2	0	2
37	1	1	2	1	1	2	0	2	0	n/a	1	1	1	0	1	1	n/a	1	1	0	1	3	n/a	2	2	0	2
39	4	5	9	3	2	5	4	9	9	n/a	0	9	0	9	9	7	n/a	7	6	2	8	11	n/a	11	10	0	10
41	1	0	1	1	0	1	0	1	0	n/a	0	0	0	0	0	0	n/a	0	0	0	0	0	n/a	0	0	0	0
43	8	1	10	5	3	8	2	10	9	n/a	0	9	0	9	9	3	n/a	3	2	5	7	15	n/a	15	11	0	11
45	0	0	0	0	0	0	0	0	0	n/a	0	0	0	0	0	0	n/a	0	0	0	0	0	n/a	0	0	0	0
47	0	0	0	0	0	0	0	0	1	n/a	0	1	0	1	1	0	n/a	0	0	0	0	0	n/a	0	0	0	0
49	0	0	0	0	0	0	0	0	2	n/a	1	3	2	1	3	0	n/a	0	0	0	0	1	n/a	1	1	0	1
51	0	0	0	0	0	0	0	0	0	n/a	0	0	0	0	0	0	n/a	0	0	0	0	0	n/a	0	0	0	0
53	0	0	0	0	0	0	0	0	0	n/a	1	1	1	0	1	1	n/a	1	1	0	1	2	n/a	2	1	0	1
55	15	1	16	10	8	18	0	18	2	n/a	1	3	1	2	3	7	n/a	7	6	0	6	0	n/a	0	0	0	0
57	27	5	37	17	17	34	3	37	3	n/a	0	3	0	3	3	48	58	47	40	5	45	6	n/a	6	7	0	7
59	20	2	23	18	4	22	1	23	14	n/a	0	14	0	14	14	6	n/a	6	6	2	8	7	n/a	7	3	0	3
61	3	1	4	3	0	3	1	4	6	n/a	0	6	3	3	6	0	n/a	0	0	0	0	0	n/a	0	0	0	0
63	7	0	7	5	1	6	1	7	20	n/a	0	20	1	19	20	6	n/a	5	1	4	5	2	n/a	2	2	0	2
65	5	1	6	2	3	5	1	6	13	n/a	2	15	3	12	15	2	n/a	2	1	0	1	1	n/a	1	2	0	2
67	0	0	0	0	0	0	0	0	0	n/a	0	0	0	0	0	0	n/a	0	0	0	0	0	n/a	0	0	0	0
69	1	0	1	1	0	1	0	1	6	n/a	0	6	0	6	6	11	n/a	12	6	8	14	11	12	11	7	0	7

Sample	tot FO	tot FO	tot FO	Picked estimate normalization *		Table feed weight normalization**							Remarks
number	p	s	c	tot (C) KIM IM	tot (C) KIM CR	GP	GO	DC	IM	CR	FO	Table Feed	
1	0	0	0			3	0	0	1	1	0	14.2	4 diiferent pieces of same grain analysed
3	2	2	2			3	5	0	9	7	3	6.4	1 almandine sent as well; 2 CR confirmed as other
5	0	0	0	19		13	16	1	20	10	0	10.4	1 GAR lost in OGL lab, 1 GAR not in vial on arrivalfrom ODM; 1 IM confirmed as CR, 1 IM lost in OGL lab
7	2	2	0			6	8	0	2	15	0	5.3	1 grossular sent as well
9	0	0	0			0	0	0	0	0	0	5.9	
11	0	0	0	40		16	9	3	52	17	0	8.4	4 specimens of 1 GAR grain analysed; 1 IM confirmed as CR
13	0	0	0			0	0	1	0	1	0	16.5	
15	0	0	0			0	0	0	0	0	0	10.4	
17	0	0	0			2	2	2	3	7	0	6.3	1 grossular sent as well; 1 CR confirmed as IM; 1 CR confirmed as other
19	0	0	0			0	0	0	0	0	0	15.8	
21	0	0	0			0	0	0	0	0	0	13.8	
23	0	0	0	48		2	4	0	59	9	0	8.9	
25	0	0	0			3	13	0	0	0	0	3.3	
27	0	0	0	14	33	5	1	2	13	31	0	11.9	1 grossular & 1 Mg-almandine sent as well; 2IM confirmed as CR
29	0	0	0			2	1	0	0	6	0	16.2	1 IM grain broken into 2, 1 Crustal IM sent for analysis, 1 CR confirmed as other
31	0	0	0			4	4	1	6	12	0	8.9	4 CR confirmed As IM, 1 crustal IM sent for analysis, 1 CR confirmed as other
33	0	0	0			8	4	0	110	39	0	2.8	1 CR was confirmed as IM, 8 crustal IM sent for analysis, 1 IM confirmed as other
35	0	0	0			1	3	2	0	2	0	12.5	
37	0	0	0			1	1	1	1	3	0	8.1	1 CR confirmed as other
39	0	0	0			5	3	0	10	16	0	6.7	1 CR confirmed as IM
41	0	0	0			1	0	0	0	0	0	10.1	
43	0	0	0			7	4	0	3	15	0	8.2	1 almandine sent as well; 4 CR confirmed as IM
45	0	0	0			0	0	0	0	0	0	14.9	
47	0	0	0			0	0	0	0	0	0	3.2	
49	0	0	0			0	0	2	0	1	0	11.8	
51	0	0	0			0	0	0	0	0	0	17.6	
53	0	0	0			0	0	2	2	2	0	5.1	1 CR confirmed as other
55	0	0	0			6	5	1	4	0	0	18.4	3 specimens of same grain analysed, result missing
57	0	0	0	48		25	25	0	69	10	0	7.6	1 GP not in vial on arrivalfrom ODM, 2 almandine sent, 1 spessartine sent, 1 grossular sent; 2 IM confirmed as CR, 1 IM lost in OGL lab, 1 CR confirmed as IM
59	0	0	0			18	4	0	6	3	0	11.0	1 spessartine sent; 2 CR confirmed As IM; 2 CR confirmed as other
61	0	0	0			3	0	3	0	0	0	10.4	
63	0	0	0			6	1	1	1	2	0	9.9	1 IM not in vial on arrival from ODM
65	1	1	1			2	4	4	1	2	1	9.3	1IM confirmed as CR
67	0	0	0			0	0	0	0	0	0	12.2	
69	0	0	0		8	1	0	0	5	7	0	13.1	2 CR confirmed as IM; 1 crustal IM sent for analysis; 2 CR confirmed as other

Sample	tot GP	tot GO	tot GAR	tot GP	tot GO	tot KIM GAR	tot crustal GAR	tot GAR	tot low cr-diop	tot low cr-diop	tot DC	tot diop	tot KIM CD	tot low cr-diop	tot diop	tot IM	tot IM	tot IM	tot KIM IM	tot crustal IM	tot IM	tot CR	tot CR	tot CR	tot KIM CR[r]	tot oth CR	tot CR
number	p	p	s	c	c	c	c	c	p	p(e)	p	s	c	c	c	p	p(e)	s	c	c	c	p	p(e)	s	c	c	c
71	1	0	1	1	0	1	0	1	0	n/a	0	0	0	0	0	3	n/a	3	3	0	3	0	n/a	0	0	0	0
73	0	0	0	0	0	0	0	0	0	n/a	0	0	0	0	0	0	n/a	0	0	0	0	0	n/a	0	0	0	0
75	0	0	0	0	0	0	0	0	4	n/a	0	4	0	4	4	0	n/a	0	0	0	0	1	n/a	1	1	0	1
77	0	0	0	0	0	0	0	0	0	n/a	0	0	0	0	0	0	n/a	0	0	0	0	0	n/a	0	0	0	0
79	0	0	1	0	0	0	1	1	9	n/a	0	5	0	5	5	34	n/a	34	21	13	34	10	n/a	10	8	1	9
81	0	0	0	0	0	0	0	0	0	n/a	0	0	0	0	0	0	n/a	0	0	0	0	0	n/a	0	0	0	0
83	0	0	0	0	1	1	0	1	0	n/a	1	0	1	0	1	0	n/a	0	0	0	0	0	n/a	0	0	0	0
85	0	0	0	0	0	0	0	0	7	n/a	0	0	0	7	7	0	n/a	0	0	0	0	0	n/a	0	0	0	0
87	0	0	0	0	0	0	0	0	0	n/a	0	0	0	0	0	4	n/a	4	4	0	4	2	n/a	2	2	0	2
89	1	0	0	0	1	1	0	1	2	n/a	0	0	0	2	2	0	n/a	0	0	0	0	1	n/a	1	0	1	1
91	0	0	0	0	0	0	0	0	0	n/a	0	0	0	0	0	0	n/a	0	0	0	0	0	n/a	0	0	0	0
93	11	6	0	10	7	17	5	22	9	n/a	3	0	4	8	12	14	34	12	9	3	12	37	62	38	37	1	38
95	3	0	0	3	0	3	0	3	0	n/a	3	0	3	0	3	0	n/a	0	0	0	0	0	n/a	0	0	0	0
97	7	2	0	5	5	10	5	15	17	n/a	2	0	3	16	19	2	n/a	11	2	9	11	12	n/a	12	9	0	9
99	11	2	0	11	2	13	1	14	2	n/a	3	0	3	2	5	0	n/a	1	0	1	1	9	20	8	8	0	8
101	3	1	0	2	2	4	0	4	2	n/a	2	0	2	2	4	0	n/a	0	0	0	0	0	n/a	0	0	0	0
103	1	0	0	0	1	1	1	2	0	n/a	0	0	0	0	0	0	n/a	0	0	0	0	3	n/a	3	3	0	3
105	2	0	0	2	0	2	0	2	1	n/a	0	0	0	1	1	0	n/a	0	0	0	0	1	n/a	1	1	0	1
107	0	0	0	0	0	0	0	0	0	n/a	0	0	0	0	0	0	n/a	0	0	0	0	0	n/a	0	0	0	0
109	0	0	0	0	0	0	0	0	0	n/a	0	0	0	0	0	0	n/a	0	0	0	0	0	n/a	0	0	0	0
111	0	0	0	0	0	0	0	0	1	n/a	0	0	0	1	1	0	n/a	0	0	0	0	0	n/a	0	0	0	0
113	5	0	0	5	0	5	0	5	0	n/a	0	0	0	0	0	0	n/a	0	0	0	0	0	n/a	0	0	0	0
115	0	0	0	0	0	0	0	0	0	n/a	0	0	0	0	0	1	n/a	1	1	0	1	1	n/a	1	1	0	1
117	3	0	0	3	0	3	0	3	0	n/a	1	0	1	0	1	1	n/a	1	1	0	1	0	n/a	0	0	0	0
119	7	0	0	7	1	8	0	8	7	n/a	1	0	1	7	8	1	5	5	4	1	5	31	100	31	26	0	26
121	0	0	0	0	0	0	0	0	0	n/a	0	0	0	5	5	0	n/a	0	0	0	0	0	n/a	0	0	0	0
123	2	2	0	2	1	3	1	4	0	n/a	0	0	0	0	0	0	n/a	0	0	0	0	0	n/a	0	0	0	0
125	1	0	0	1	0	1	0	1	0	n/a	0	0	0	0	0	0	n/a	0	0	0	0	0	n/a	0	0	0	0
127	8	0	0	8	0	8	0	8	3	n/a	1	0	3	1	4	1	n/a	1	1	0	1	1	n/a	1	1	0	1
129	5	0	0	5	0	5	0	5	0	n/a	0	0	0	0	0	0	n/a	0	0	0	0	1	n/a	1	1	0	1
131	1	1	0	1	1	2	0	2	1	n/a	0	0	0	1	1	1	n/a	1	1	0	1	4	n/a	4	4	0	4
133	0	0	0	0	0	0	0	0	0	n/a	0	0	0	0	0	0	n/a	0	0	0	0	0	n/a	0	0	0	0
135	11	10	0	10	8	18	3	21	21	40	1	0	3	19	22	0	n/a	0	0	0	0	3	n/a	3	3	0	3
137	19	6	0	18	5	23	5	28	20	50	1	0	2	19	21	1	n/a	3	2	1	3	70	400	61	56	2	58
139	4	1	0	4	1	5	0	5	2	n/a	2	0	2	2	4	0	n/a	0	0	0	0	1	n/a	1	1	0	1
141	1	1	0	1	1	2	0	2	2	n/a	0	0	0	2	2	0	n/a	0	0	0	0	2	n/a	2	1	1	2

Sample	tot FO	tot FO	tot FO	Picked estimate normalization *		Table feed weight normalization**							Remarks
number	p	s	c	tot (C) KIM IM	tot (C) KIM CR	GP	GO	DC	IM	CR	FO	Table Feed	
71	0	0	0			1	0	0	3	0	0	12.5	
73	0	0	0			0	0	0	0	0	0	13.3	
75	0	0	0			0	0	0	0	1	0	13.7	
77	0	0	0			0	0	0	0	0	0	15.1	
79	0	0	0			0	0	0	24	9	0	9.5	1 spessartine sent; 4 low cr-diop not in vial on arrival from ODM; 1 CR confirmed as other
81	0	0	0			0	0	0	0	0	0	9.8	
83	0	0	0			0	1	1	0	0	0	14.0	
85	0	0	0			0	0	0	0	0	0	5.4	
87	0	0	0			0	0	0	8	4	0	5.8	
89	0	0	0			0	3	0	0	0	0	3.4	
91	0	0	0			0	0	0	0	0	0	13.0	
93	1	1	0	22	62	11	7	4	23	66	0	10.4	1 IM confirmed as other, 1IM confirmed as CR; 1 FO confirmed as sphene
95	0	0	0			3	0	3	0	0	0	13.0	
97	0	0	0			6	6	3	2	10	0	9.7	2 CR confirmed as other, 1 CR confirmed as IM
99	0	0	0		17	15	3	4	0	23	0	8.0	1 CR confirmed as IM
101	0	0	0			2	2	2	0	0	0	10.7	
103	0	0	0			0	2	0	0	5	0	7.1	
105	0	0	0			8	0	0	0	4	0	2.8	
107	0	0	0			0	0	0	0	0	0	13.5	
109	0	0	0			0	0	0	0	0	0	17.8	
111	0	0	0			0	0	0	0	0	0	16.5	
113	0	0	0			3	0	0	0	0	0	17.1	
115	0	0	0			0	0	0	1	1	0	14.5	
117	0	0	0			3	0	1	1	0	0	10.0	
119	0	0	0	20	84	6	1	1	18	78	0	11.9	4 CR confirmed as IM, 1 CR lost in OGL lab
121	0	0	0			0	0	0	0	0	0	12.2	
123	4	4	4			2	1	0	0	0	4	11.7	
125	0	0	0			1	0	0	0	0	0	9.1	
127	0	0	0			9	0	3	1	1	0	10.2	
129	0	0	0			10	0	0	0	2	0	5.6	
131	0	0	0			2	2	0	2	6	0	7.2	
133	0	0	0			0	0	0	0	0	0	17.4	
135	0	0	0			6	5	2	0	2	0	17.7	
137	2	2	2		320	16	4	2	2	279	2	12.6	1 CR confirmed as other, 2 CR confirmed as IM, 9 CR not in vial on arrival from ODM
139	0	0	0			4	1	2	0	1	0	12.2	
141	0	0	0			1	1	0	0	1	0	11.1	

Sample	tot GP	tot GO	tot GAR	tot GP	tot GO	tot KIM GAR	tot crustal GAR	tot GAR	tot low cr-diop	tot low cr-diop	tot DC	tot diop	tot KIM CD	tot low cr-diop	tot diop	tot IM	tot IM	tot IM	tot KIM IM	tot crustal IM	tot IM	tot CR	tot CR	tot CR	tot KIM CR^r	tot oth CR	tot CR
number	p	p	s	c	c	c	c	c	p	p(e)	p	s	c	c	c	p	p(e)	s	c	c	c	p	p(e)	s	c	c	c
143	5	3	0	5	3	8	0	8	0	N/a	0	0	0	0	0	0	N/a	1	0	1	1	14	N/a	13	10	3	13
145	1	2	0	1	1	2	1	3	4	N/a	3	0	4	3	7	1	N/a	2	1	1	2	15	N/a	14	14	0	14
149	0	0	0	0	0	0	0	0	1	n/a	0	0	0	1	1	0	n/a	0	0	0	0	4	n/a	4	4	0	4
151	0	0	0	0	0	0	0	0	0	n/a	0	0	0	0	0	0	n/a	0	0	0	0	0	n/a	0	0	0	0
153	2	0	0	2	0	2	0	2	9	n/a	0	0	0	9	9	5	n/a	4	2	2	4	4	n/a	4	4	0	4
155	3	0	0	3	0	3	1	4	0	n/a	0	0	0	0	0	0	n/a	0	0	0	0	1	n/a	1	1	0	1
157	1	0	0	1	1	2	0	2	1	n/a	0	0	0	1	1	0	n/a	0	0	0	0	0	n/a	0	0	0	0
159	0	0	0	0	0	0	0	0	0	n/a	0	0	0	0	0	2	n/a	2	2	0	2	0	n/a	0	0	0	0
161	1	0	0	1	0	1	0	1	1	n/a	0	0	1	0	1	1	n/a	1	1	0	1	0	n/a	0	0	0	0
163	0	0	0	0	0	0	0	0	2	n/a	0	0	0	2	2	0	n/a	0	0	0	0	0	n/a	0	0	0	0
165	0	0	0	0	0	0	0	0	0	n/a	0	0	0	0	0	0	n/a	0	0	0	0	0	n/a	0	0	0	0
167	1	0	0	1	0	1	0	1	4	n/a	1	0	1	4	5	0	n/a	0	0	0	0	1	n/a	1	1	0	1
169	0	0	0	0	0	0	0	0	0	n/a	0	0	0	0	0	0	n/a	0	0	0	0	0	n/a	0	0	0	0
171	2	0	0	2	0	2	2	4	2	n/a	2	0	2	2	4	8	n/a	14	6	8	14	6	n/a	6	4	0	4
173	0	0	0	0	0	0	0	0	0	n/a	0	0	0	0	0	0	n/a	0	0	0	0	0	n/a	0	0	0	0
175	0	0	0	0	0	0	0	0	0	n/a	0	0	0	0	0	0	n/a	0	0	0	0	0	n/a	0	0	0	0
177	1	0	0	0	0	0	2	2	0	n/a	0	0	0	0	0	0	n/a	0	0	0	0	0	n/a	0	0	0	0
179	4	0	0	3	1	4	0	4	9	n/a	0	0	0	9	9	0	n/a	0	0	0	0	0	n/a	0	0	0	0
181	6	0	0	6	0	6	1	7	12	n/a	1	0	2	11	13	0	n/a	0	0	0	0	2	n/a	2	2	0	2
183	5	0	0	5	0	5	0	5	0	n/a	0	0	0	0	0	0	n/a	0	0	0	0	0	n/a	0	0	0	0
185	1	0	0	1	0	1	0	1	3	n/a	0	0	0	3	3	0	n/a	0	0	0	0	3	n/a	3	3	0	3
187	14	2	0	14	2	16	0	16	2	n/a	4	0	4	2	6	3	n/a	2	1	0	1	1	n/a	2	2	0	2
189	22	0	0	21	1	22	0	22	0	n/a	0	0	0	0	0	0	n/a	0	0	0	0	2	n/a	2	2	0	2
191	0	0	0	0	0	0	1	1	0	n/a	1	0	1	0	1	0	n/a	0	0	0	0	7	n/a	7	7	0	7
193	0	0	0	0	0	0	0	0	0	n/a	0	0	0	0	0	0	n/a	0	0	0	0	0	n/a	0	0	0	0
195	0	0	0	0	0	0	0	0	8	n/a	1	0	1	10	11	0	n/a	1	1	0	1	3	n/a	2	2	0	2
197	1	1	0	1	1	2	1	3	0	n/a	0	0	0	0	0	0	n/a	0	0	0	0	0	n/a	0		0	0
199	14	0	0	10	2	12	1	13	5	n/a	1	0	1	5	6	9	n/a	9	9	0	9	6	n/a	6	6	0	6
201	0	0	0	0	0	0	0	0	1	n/a	0	0	0	1	1	0	n/a	0	0	0	0	0	n/a	0	0	0	0
203	0	0	0	0	0	0	0	0	1	n/a	0	0	0	1	1	0	n/a	0	0	0	0	0	n/a	0	0	0	0
205	2	0	0	2	0	2	0	2	0	n/a	1	0	1	0	1	6	n/a	5	5	0	5	3	n/a	4	4	0	4
207	3	0	0	2	1	3	0	3	4	n/a	0	0	0	4	4	0	n/a	0	0	0	0	0	n/a	0	0	0	0
209	11	0	0	10	1	11	0	11	12	n/a	0	0	2	11	13	2	n/a	2	2	0	2	5	n/a	4	3	1	4
211	1	0	0	1	0	1	0	1	2	n/a	0	0	1	1	2	0	n/a	0	0	0	0	30	n/a	29	25	1	26
213	4	3	0	3	0	3	2	5	5	n/a	0	0	1	4	5	0	n/a	0	0	0	0	0	n/a	0	0	0	0
215	2	0	0	2	0	2	0	2	2	n/a	1	0	2	1	3	0	n/a	0	0	0	0	1	n/a	1	1	0	1

Sample	tot FO	tot FO	tot FO	Picked estimate normalization *		Table feed weight normalization**							Remarks
number	p	s	c	tot (C) KIM IM	tot (C) KIM CR	GP	GO	DC	IM	CR	FO	Table Feed	
143	0	0	0			8	5	0	0	15	0	7.1	1 CR confirmed as IM
145	0	0	0			2	2	8	2	27	0	5.7	1 CR comfirmed as IM
147	0	0	0			4	2	2	2	2	0	12.8	2 CR confirmed as IM
149	0	0	0			0	0	0	0	16	0	2.8	
151	0	0	0			0	0	0	0	0	0	8.2	
153	0	0	0			8	0	0	8	15	0	2.9	1 CR confirmed as other
155	0	0	0			5	0	0	0	2	0	6.2	
157	0	0	0			1	1	0	0	0	0	9.3	
159	0	0	0			0	0	0	3	0	0	8.3	
161	0	0	0			1	0	1	1	0	0	10.0	
163	0	0	0			0	0	0	0	0	0	9.2	
165	0	0	0			0	0	0	0	0	0	9.2	
167	0	0	0			1	0	1	0	1	0	11.9	
169	0	0	0			0	0	0	0	0	0	8.3	
171	0	0	0			2	0	2	6	4	0	10.8	1 CR confirmed as IM, 1 IM confirmed as CR, 2 CR confirmed as other
173	0	0	0			0	0	0	0	0	0	11.7	
175	0	0	0			0	0	0	0	0	0	11.8	
177	1	1	1			0	0	0	0	0	1	10.1	
179	0	0	0			3	1	0	0	0	0	11.5	
181	0	0	0			8	0	3	0	3	0	8.8	
183	0	0	0			4	0	0	0	0	0	13.7	
185	0	0	0			1	0	0	0	4	0	9.4	
187	0	0	0			15	2	4	1	2	0	10.3	1 IM confirmed as CR, 1 IM not in vial on arrrival from ODM
189	0	0	0			16	1	0	0	2	0	14.2	
191	0	0	0			0	0	1	0	8	0	9.5	
193	0	0	0			0	0	0	0	0	0	11.5	
195	0	0	0			0	0	1	1	3	0	7.4	1 CR confirmed as IM
197	0	0	0			1	1	0	0	0	0	10.1	
199	1	1	1			8	2	1	7	5	1	14.4	
201	0	0	0			0	0	0	0	0	0	12.6	
203	0	0	0			0	0	0	0	0	0	14.0	
205	0	0	0			3	0	1	6	5	0	8.6	1 IM confirmed as CR
207	0	0	0			2	1	0	0	0	0	12.3	
209	0	0	0			10	1	2	2	3	0	11.0	1 CR confirmed as other
211	0	0	0			1	0	1	0	27	0	10.2	3 CR confirmed as other, 1 IM not in vial on arrivalfrom ODM
213	0	0	0			3	0	1	0	0	0	9.8	
215	0	0	0			2	0	2	0	1	0	9.1	

Sample	tot GP	tot GO	tot GAR	tot GP	tot GO	tot KIM GAR	tot crustal GAR	tot GAR	tot low cr-diop	tot low cr-diop	tot DC	tot diop	tot KIM CD	tot low cr-diop	tot diop	tot IM	tot IM	tot IM	tot KIM IM	tot crustal IM	tot IM	tot CR	tot CR	tot CR	tot KIM CR^r	tot oth CR	tot CR
number	p	p	s	c	c	c	c	c	p	p(e)	p	s	c	c	c	p	p(e)	s	c	c	c	p	p(e)	s	c	c	c
217	0	0	0	0	0	0	0	0	3	n/a	3	0	3	3	6	0	n/a	0	0	0	0	0	n/a	0	0	0	0
223	0	0	0	0	0	0	0	0	0	n/a	0	0	0	0	0	0	n/a	0	0	0	0	0	n/a	0	0	0	0
227	0	0	0	0	0	0	0	0	0	n/a	0	0	0	0	0	0	n/a	0	0	0	0	0	n/a	0	0	0	0
229	10	1	0	10	0	10	0	10	1	n/a	4	0	4	1	5	0	n/a	0	0	0	0	3	n/a	3	3	0	3
231	1	0	0	1	0	1	0	1	0	n/a	0	0	0	0	0	0	n/a	0	0	0	0	0	n/a	0	0	0	0
233	8	0	0	8	0	8	0	8	10	n/a	3	0	3	11	14	0	n/a	0	0	0	0	6	n/a	6	6	0	6
235	1	1	0	1	1	2	0	2	0	n/a	0	0	0	0	0	0	n/a	0	0	0	0	0	n/a	0	0	0	0
237	1	0	0	1	0	1	0	1	1	n/a	0	0	0	1	1	0	n/a	0	0	0	0	0	n/a	0	0	0	0
239	3	1	0	2	1	3	1	4	7	n/a	1	0	1	7	8	0	n/a	0	0	0	0	9	n/a	8	7	1	8
241	0	0	0	0	0	0	0	0	1	n/a	0	0	0	1	1	0	n/a	1	0	1	1	2	n/a	1	1	0	1
243	0	0	0	0	0	0	0	0	4	n/a	0	0	0	4	4	2	n/a	3	2	1	3	6	10	3	3	0	3
245	7	0	0	4	1	5	2	7	13	n/a	1	0	1	13	14	1	n/a	1	1	0	1	1	n/a	1	1	0	1
247	0	0	0	0	0	0	0	0	0	n/a	0	0	0	0	0	0	n/a	0	0	0	0	0	n/a	0	0	0	0
249	0	0	0	0	0	0	0	0	1	n/a	1	0	1	7	8	1	n/a	1	1	0	1	5	n/a	1	1	0	1
251	0	0	0	0	0	0	0	0	0	n/a	0	0	0	0	0	0	n/a	0	0	0	0	2	n/a	2	2	0	2
253	0	0	0	0	0	0	0	0	0	n/a	0	0	0	0	0	0	n/a	0	0	0	0	0	n/a	0	0	0	0
255	2	0	0	2	0	2	0	2	2	n/a	0	0	0	2	2	0	n/a	0	0	0	0	0	n/a	0	0	0	0
257	1	0	0	1	0	1	0	1	0	n/a	0	0	0	0	0	0	n/a	0	0	0	0	1	n/a	1	1	0	1
259	0	0	0	0	0	0	0	0	0	n/a	0	0	0	0	0	0	n/a	0	0	0	0	0	n/a	0	0	0	0
261	3	0	0	2	1	3	0	3	0	n/a	0	0	0	0	0	0	n/a	0	0	0	0	0	n/a	0	0	0	0
263	1	0	0	1	0	1	0	1	1	n/a	0	0	0	1	1	0	n/a	1	0	1	1	4	n/a	3	3	0	3
265	3	0	0	3	0	3	2	5	4	n/a	0	0	0	4	4	0	n/a	1	0	1	1	0	n/a	0	0	0	0
267	4	0	0	4	0	4	0	4	4	n/a	0	0	0	4	4	2	n/a	1	1	0	1	6	n/a	5	5	0	5
269	7	0	0	7	0	7	1	8	0	n/a	0	0	0	0	0	0	n/a	0	0	0	0	0	n/a	0	0	0	0
271	0	0	0	0	0	0	0	0	0	n/a	1	0	1	0	1	0	n/a	0	0	0	0	0	n/a	0	0	0	0
273	0	0	0	0	0	0	0	0	0	n/a	0	0	0	0	0	0	n/a	0	0	0	0	0	n/a	0	0	0	0
275	0	0	0	0	0	0	0	0	0	n/a	0	0	0	0	0	0	n/a	0	0	0	0	0	n/a	0	0	0	0
277	0	0	0	0	0	0	0	0	0	n/a	0	0	0	0	0	0	n/a	0	0	0	0	0	n/a	0	0	0	0
279	1	0	0	1	0	1	0	1	0	n/a	0	0	0	0	0	0	n/a	0	0	0	0	1	n/a	1	1	0	1
281	0	0	0	0	0	0	0	0	0	n/a	0	0	0	0	0	0	n/a	0	0	0	0	0	n/a	0	0	0	0
283	0	0	0	0	0	0	0	0	0	n/a	0	0	0	0	0	0	n/a	0	0	0	0	0	n/a	0	0	0	0
285	1	1	0	1	0	1	1	2	2	n/a	0	0	0	2	2	2	n/a	3	2	1	3	2	n/a	2	2	0	2
287	0	0	0	0	0	0	0	0	0	n/a	0	0	0	0	0	0	n/a	0	0	0	0	0	n/a	0	0	0	0
289	0	0	0	0	0	0	0	0	0	n/a	0	0	0	0	0	0	n/a	0	0	0	0	0	n/a	0	0	0	0

Sample	tot FO	tot FO	tot FO	Picked estimate normalization *		Table feed weight normalization**							Remarks
number	p	s	c	tot (C) KIM IM	tot (C) KIM CR	GP	GO	DC	IM	CR	FO	Table Feed	
217	0	0	0			0	0	4	0	0	0	9.3	
219	0	0	0			0	0	0	0	0	0	17.4	
221	0	0	0			3	0	3	0	0	0	4.1	
223	0	0	0			0	0	0	0	0	0	11.3	
225	0	0	0			10	3	0	0	10	0	8.0	2 CR confirmed as other
227	0	0	0			0	0	0	0	0	0	13.9	
229	0	0	0			13	0	5	0	4	0	8.7	
231	0	0	0			1	0	0	0	0	0	14.6	
233	0	0	0			9	0	3	0	7	0	9.5	
235	0	0	0			1	1	0	0	0	0	12.2	
237	0	0	0			1	0	0	0	0	0	8.5	
239	0	0	0			3	1	1	0	10	0	7.5	1 CR confirmed as other
241	0	0	0			0	0	0	0	1	0	14.4	1 CR confirmed as IM
243	0	0	0		5	0	0	0	2	5	0	10.1	1 CR confirmed as IM, 2 CR confirmed as other
245	0	0	0			4	1	1	1	1	0	11.7	
247	0	0	0			0	0	0	0	0	0	11.6	
249	0	0	0			0	0	1	1	1	0	8.2	4 CR confirmed as other
251	0	0	0			0	0	0	0	2	0	9.3	
253	0	0	0			0	0	0	0	0	0	10.5	
255	0	0	0			2	0	0	0	0	0	12.3	
257	0	0	0			1	0	0	0	1	0	13.4	
259	0	0	0			0	0	0	0	0	0	12.3	
261	0	0	0			2	1	0	0	0	0	11.0	
263	0	0	0			1	0	0	0	4	0	9.0	1 CR confirmed as IM
265	9	9	6			4	0	0	0	0	8	8.8	3 FO confirmed as other
267	0	0	0			6	0	0	1	7	0	7.8	1 CR confirmed as other, 1 IM confirmed as CR
269	0	0	0			4	0	0	0	0	0	17.5	
271	0	0	0			0	0	1	0	0	0	15.4	
273	0	0	0			0	0	0	0	0	0	12.9	
275	0	0	0			0	0	0	0	0	0	10.3	
277	0	0	0			0	0	0	0	0	0	11.0	
279	0	0	0			1	0	0	0	1	0	12.8	
281	0	0	0			0	0	0	0	0	0	10.1	
283	0	0	0			0	0	0	0	0	0	12.2	
285	0	0	0			1	0	0	2	2	0	11.2	1 crustal IM sent
287	0	0	0			0	0	0	0	0	0	9.8	
289	0	0	0			0	0	0	0	0	0	12.1	

Sample	tot GP	tot GO	tot GAR	tot GP	tot GO	tot KIM GAR	tot crustal GAR	tot GAR	tot low cr-diop	tot low cr-diop	tot DC	tot diop	tot KIM CD	tot low cr-diop	tot diop	tot IM	tot IM	tot IM	tot KIM IM	tot crustal IM	tot IM	tot CR	tot CR	tot CR	tot KIM CR'	tot oth CR	tot CR
number	p	p	s	c	c	c	c	c	p	p(e)	p	s	c	c	c	p	p(e)	s	c	c	c	p	p(e)	s	c	c	c
291	1	0	0	1	0	1	0	1	0	n/a	1	0	1	0	1	0	n/a	1	0	1	1	5	n/a	5	5	0	5
293	0	0	0	0	0	0	0	0	7	N/a	1	0	1	7	8	0	N/a	0	0	0	0	0	N/a	0	0	0	0
295	3	0	0	2	0	2	0	2	0	n/a	0	0	0	0	0	2	n/a	2	2	0	2	0	n/a	0	0	0	0
297	2	0	0	2	0	2	0	2	9	n/a	0	0	0	9	9	0	n/a	0	0	0	0	0	n/a	0	0	0	0
299	1	0	0	1	0	1	0	1	2	n/a	0	0	0	2	2	0	n/a	0	0	0	0	0	n/a	0	0	0	0
303	3	0	0	2	0	2	1	3	5	n/a	0	0	0	5	5	0	n/a	0	0	0	0	0	n/a	0	0	0	0
305	3	1	0	3	2	5	2	7	5	n/a	0	0	0	5	5	0	n/a	4	0	4	4	0	n/a	0	0	0	0
307	0	0	0	0	0	0	0	0	0	n/a	0	0	0	0	0	0	n/a	0	0	0	0	0	n/a	0	0	0	0
309	0	0	0	0	0	0	0	0	0	n/a	0	0	0	0	0	0	n/a	0	0	0	0	0	n/a	0	0	0	0
311	0	0	0	0	0	0	0	0	0	n/a	1	0	1	0	1	0	n/a	0	0	0	0	0	n/a	0	0	0	0
313	0	0	0	0	0	0	0	0	0	n/a	0	0	0	0	0	0	n/a	0	0	0	0	0	n/a	0	0	0	0
315	4	0	0	4	0	4	0	4	0	n/a	0	0	0	0	0	0	n/a	0	0	0	0	0	n/a	0	0	0	0
317	2	2	0	3	1	4	0	4	1	n/a	0	0	0	1	1	0	n/a	0	0	0	0	0	n/a	0	0	0	0
319	1	0	0	1	0	1	0	1	2	n/a	0	0	0	2	2	0	n/a	0	0	0	0	0	n/a	0	0	0	0
321	1	0	0	1	0	1	0	1	0	n/a	0	0	0	0	0	0	n/a	0	0	0	0	0	n/a	0	0	0	0
323	0	0	0	0	0	0	0	0	0	n/a	0	0	0	0	0	0	n/a	0	0	0	0	0	n/a	0	0	0	0
325	0	0	0	0	0	0	0	0	0	n/a	0	0	0	0	0	0	n/a	0	0	0	0	0	n/a	0	0	0	0
327	0	0	0	0	0	0	0	0	0	n/a	0	0	0	0	0	0	n/a	0	0	0	0	0	n/a	0	0	0	0
329	2	0	2	2	0	2	0	2	0	n/a	0	0	1	0	1	0	n/a	0	0	0	0	0	n/a	0	0	0	0
331	2	0	2	2	0	2	0	2	0	n/a	0	0	0	0	0	0	n/a	0	0	0	0	0	n/a	0	0	0	0
333	4	0	4	4	0	4	0	4	2	n/a	1	3	2	1	3	0	n/a	0	0	0	0	0	n/a	0	0	0	0
335	0	0	0	0	0	0	0	0	0	n/a	0	0	0	0	0	0	n/a	0	0	0	0	0	n/a	0	0	0	0
337	1	0	1	1	0	1	0	1	0	n/a	1	0	0	0	1	0	n/a	1	0	1	1	1	n/a	1	1	0	1
339	0	0	0	0	0	0	0	0	0	n/a	0	0	0	0	0	0	n/a	0	0	0	0	0	n/a	0	0	0	0
341	0	0	0	0	0	0	0	0	0	n/a	0	0	0	0	0	0	n/a	0	0	0	0	0	n/a	0	0	0	0
343	0	0	0	0	0	0	0	0	0	n/a	0	0	0	0	0	0	n/a	0	0	0	0	0	n/a	0	0	0	0
345	0	0	0	0	0	0	0	0	0	n/a	0	0	0	0	0	0	n/a	0	0	0	0	0	n/a	0	0	0	0
347	2	0	2	2	0	2	0	2	1	n/a	1	0	2	0	2	0	n/a	0	0	0	0	0	n/a	0	0	0	0
349	0	0	1	1	0	1	0	1	1	n/a	0	0	0	0	2	0	n/a	0	0	0	0	0	n/a	0	0	0	0
351	0	0	0	0	0	0	0	0	0	n/a	0	0	0	0	0	0	n/a	0	0	0	0	0	n/a	0	0	0	0
353	1	0	1	1	0	1	0	1	3	n/a	1	0	2	2	4	0	n/a	0	0	0	0	0	n/a	0	0	0	0
355	2	0	2	1	1	2	0	2	0	n/a	0	0	0	0	0	0	n/a	0	0	0	0	0	n/a	0	0	0	0
357	3	0	3	3	0	3	0	3	0	n/a	1	0	0	1	1	0	n/a	0	0	0	0	0	n/a	0	0	0	0
359	3	1	4	3	1	4	0	4	1	n/a	0	0	0	1	1	0	n/a	0	0	0	0	0	n/a	0	0	0	0
361	1	0	1	1	0	1	0	1	1	n/a	0	0	0	1	1	0	n/a	0	0	0	0	0	n/a	0	0	0	0
363	1	0	0	0	0	0	0	0	0	n/a	0	0	0	0	0	0	n/a	0	0	0	0	1	n/a	1	1	0	1

Sample	tot FO	tot FO	tot FO	Picked estimate normalization *		Table feed weight normalization**							Remarks
number	p	s	c	tot (C) KIM IM	tot (C) KIM CR	GP	GO	DC	IM	CR	FO	Table Feed	
291	0	0	0			1	0	1	0	5	0	10.7	1 crustal IM sent
293	0	0	0			0	0	1	0	0	0	11.8	
295	0	0	0			3	0	0	3	0	0	8.8	
297	0	0	0			3	0	0	0	0	0	8.7	
299	0	0	0			1	0	0	0	0	0	10.7	
301	0	0	0			1	0	0	0	0	0	14.6	
303	0	0	0			2	0	0	0	0	0	12.6	
305	0	0	0			2	1	0	0	0	0	17.6	
307	0	0	0			0	0	0	0	0	0	13.4	
309	0	0	0			0	0	0	0	0	0	13.8	
311	0	0	0			0	0	1	0	0	0	11.2	
313	0	0	0			0	0	0	0	0	0	12.7	
315	0	0	0			5	0	0	0	0	0	9.5	
317	0	0	0			2	1	0	0	0	0	15.8	
319	0	0	0			1	0	0	0	0	0	10.4	
321	0	0	0			1	0	0	0	0	0	10.4	
323	0	0	0			0	0	0	0	0	0	11.9	
325	0	0	0			0	0	0	0	0	0	11.8	
327	0	0	0			0	0	0	0	0	0	10.1	
329	0	0	0			2	0	1	0	0	0	12.6	
331	0	0	0			2	0	0	0	0	0	10.6	
333	0	0	0			3	0	1	0	0	0	15.6	
335	0	0	0			0	0	0	0	0	0	11.3	
337	0	0	0			1	0	0	0	1	0	8.6	
339	0	0	0			0	0	0	0	0	0	14.7	
341	0	0	0			0	0	0	0	0	0	12.5	
343	0	0	0			0	0	0	0	0	0	12.4	
345	0	0	0			0	0	0	0	0	0	12.2	
347	0	0	0			2	0	2	0	0	0	14.5	
349	0	0	0			1	0	0	0	0	0	10.1	
351	0	0	0			0	0	0	0	0	0	13.1	
353	0	0	0			1	0	2	0	0	0	12.5	
355	0	0	0			1	1	0	0	0	0	12.2	
357	0	0	0			4	0	0	0	0	0	8.9	
359	0	0	0			2	1	0	0	0	0	14.5	
361	0	0	0			1	0	0	0	0	0	11.7	
363	0	0	0			0	0	0	0	2	0	6.9	

Sample	tot GP	tot GO	tot GAR	tot GP	tot GO	tot KIM GAR	tot crustal GAR	tot GAR	tot low cr-diop	tot low cr-diop	tot DC	tot diop	tot KIM CD	tot low cr-diop	tot diop	tot IM	tot IM	tot IM	tot KIM IM	tot crustal IM	tot IM	tot CR	tot CR	tot CR	tot KIM CR^r	tot oth CR	tot CR
number	p	p	s	c	c	c	c	c	p	p(e)	p	s	c	c	c	p	p(e)	s	c	c	c	p	p(e)	s	c	c	c
365	0	0	0	0	0	0	0	0	0	n/a	0	0	0	0	0	0	n/a	0	0	0	0	0	n/a	0	0	0	0
367	7	0	7	6	1	7	0	7	1	N/a	0	0	0	1	1	6	N/a	6	5	1	1	6	N/a	5	5	0	5
369	1	0	1	0	0	0	0	0	0	n/a	0	0	0	0	0	0	n/a	0	0	0	0	0	n/a	0	0	0	0
371	0	0	0	0	0	0	0	0	0	n/a	0	0	0	0	0	0	n/a	0	0	0	0	0	n/a	0	0	0	0
373	0	0	0	0	0	0	0	0	0	n/a	0	0	0	0	0	0	n/a	0	0	0	0	0	n/a	0	0	0	0
375	0	0	0	0	0	0	0	0	1	n/a	0	0	0	1	1	0	n/a	0	0	0	0	0	n/a	0	0	0	0
379	0	0	0	0	0	0	0	0	0	n/a	0	0	0	0	0	0	n/a	0	0	0	0	1	n/a	1	1	0	1
381	1	0	1	1	0	1	0	1	0	n/a	0	0	0	0	0	0	n/a	0	0	0	0	0	n/a	0	0	0	0
383	0	0	0	0	0	0	0	0	0	n/a	0	0	0	0	0	0	n/a	0	0	0	0	0	n/a	0	0	0	0
385	1	0	0	0	0	0	0	0	1	n/a	0	3	1	2	3	0	n/a	2	0	2	2	0	n/a	0	0	0	0
387	0	0	0	0	0	0	0	0	1	n/a	0	1	1	1	1	0	n/a	0	0	0	0	0	n/a	0	0	0	0
389	0	0	0	0	0	0	0	0	0	n/a	0	0	0	0	0	0	n/a	0	0	0	0	0	n/a	0	0	0	0
391	0	0	0	0	0	0	0	0	0	n/a	0	0	0	0	0	0	n/a	0	0	0	0	0	n/a	0	0	0	0
393	0	0	0	0	0	0	0	0	0	n/a	0	0	0	0	0	0	n/a	0	0	0	0	1	n/a	1	1	0	1
395	1	0	1	0	1	1	0	1	0	n/a	0	0	0	0	0	0	n/a	0	0	0	0	0	n/a	0	0	0	0
397	0	0	0	0	0	0	0	0	0	n/a	0	0	0	0	0	0	n/a	0	0	0	0	0	n/a	0	0	0	0
399	1	0	3	1	0	1	2	3	2	n/a	0	0	0	0	1	1	n/a	1	1	2	3	7	n/a	7	5	0	5
401	0	0	0	0	0	0	0	0	0	n/a	0	0	0	0	0	0	n/a	0	0	0	0	0	n/a	0	0	0	0
403	1	1	2	1	1	2	0	2	0	n/a	0	0	0	0	0	6	n/a	8	5	2	7	2	n/a	2	2	0	2
405	1	0	1	1	0	1	0	1	2	n/a	1	3	2	1	3	0	n/a	0	0	0	0	2	n/a	2	2	0	2
407	5	0	5	3	2	5	0	5	11	n/a	0	11	0	11	11	1	n/a	1	1	0	1	1	n/a	1	1	0	1
409	4	0	3	3	0	3	0	3	10	n/a	0	10	1	9	10	1	n/a	1	1	0	1	3	n/a	3	3	0	3
411	5	0	5	3	1	4	0	4	2	n/a	0	2	0	2	2	2	n/a	2	1	1	2	2	n/a	2	1	1	2
413	0	0	0	0	0	0	0	0	7	n/a	0	7	0	7	7	0	n/a	0	0	0	0	1	n/a	1	1	0	1
415	0	0	0	0	0	0	1	1	1	n/a	0	1	0	1	1	0	n/a	0	0	0	0	0	n/a	0	0	0	0
417	6	1	7	6	1	7	0	7	0	n/a	0	0	0	0	0	10	n/a	10	7	2	9	0	n/a	0	0	0	0
419	0	0	0	0	0	0	0	0	4	n/a	0	4	0	4	4	0	n/a	0	0	0	0	0	n/a	0	0	0	0
421	1	0	1	0	1	1	0	1	1	n/a	0	1	0	1	1	1	n/a	1	1	0	1	1	n/a	1	1	0	1
423	14	4	19	8	8	16	1	17	9	n/a	1	10	1	9	10	9	22	9	10	0	10	20	35	19	16	0	16
425	0	0	0	0	0	0	0	0	0	n/a	0	0	0	0	0	0	n/a	0	0	0	0	0	n/a	0	0	0	0
427	0	0	0	0	0	0	0	0	1	n/a	0	1	0	1	1	2	n/a	0	0	1	1	1	n/a	1	1	0	1
429	7	4	11	6	3	9	2	11	18	n/a	0	18	2	16	18	4	10	4	3	1	4	3	n/a	3	2	0	2

Sample	tot FO	tot FO	tot FO	Picked estimate normalization *		Table feed weight normalization**							Remarks
number	p	s	c	tot (C) KIM IM	tot (C) KIM CR	GP	GO	DC	IM	CR	FO	Table Feed	
365	0	0	0			0	0	0	0	0	0	11.5	
367	0	0	0			6	1	0	5	5	0	10.6	1 CR not in vial on arrival from ODM
369	0	0	0			0	0	0	0	0	0	16.2	GP grain plucked during polishing process and lost at OGL lab
371	0	0	0			0	0	0	0	0	0	13.4	
373	0	0	0			0	0	0	0	0	0	12.0	
375	0	0	0			0	0	0	0	0	0	11.1	
377	0	0	0			0	0	0	0	2	0	11.2	
379	0	0	0			0	0	0	0	1	0	10.8	
381	0	0	0			1	0	0	0	0	0	9.8	
383	0	0	0			0	0	0	0	0	0	14.1	
385	0	0	0			0	0	1	0	0	0	9.5	1 GP grain not sent by ODM
387	0	0	0			0	0	1	0	0	0	14.6	
389	0	0	0			0	0	0	0	0	0	12.6	
391	0	0	0			0	0	0	0	0	0	10.6	
393	0	0	0			0	0	0	0	1	0	8.4	
395	0	0	0			0	1	0	0	0	0	8.2	
397	0	0	0			0	0	0	0	0	0	12.7	
399	0	0	0			1	0	0	1	6	0	9.7	2 Cr- grossular sent as well; 2 CR confirmed as IM
401	0	0	0			0	0	0	0	0	0	10.8	
403	0	0	0			1	1	0	7	3	0	7.5	1 IM confirmed as other
405	0	0	0			2	0	3	0	3	0	7.0	
407	0	0	0			4	2	0	1	1	0	8.9	
409	0	0	0			3	0	1	1	3	0	11.0	1 GP not sent by ODM
411	0	0	0			3	1	0	1	1	0	10.4	1 GP plucked in polishing process- lost in OGL lab
413	0	0	0			0	0	0	0	1	0	12.8	
415	0	0	0			0	0	0	0	0	0	6.8	
417	0	0	0			7	1	0	8	0	0	9.2	1 IM confirmed as other
419	0	0	0			0	0	0	0	0	0	15.6	
421	0	0	0			0	1	0	1	1	0	7.6	
423	0	0	0	24	29	9	9	1	26	32	0	10.0	2 GP lost in in OGL lab;1of 12 GP removed during mounting- all confirmed as G9; 1 almandine sent as well; only 19 CR in vial on arrival from ODM; 1 CR confirmed as IM, 2 CR confirmed as other
425	0	0	0			0	0	0	0	0	0	13.9	
427	0	0	0			0	0	0	0	1	0	10.7	
429	0	0	0	7		6	3	2	6	2	0	12.0	1 CR confirmed as other

Sample	tot GP	tot GO	tot GAR	tot GP	tot GO	tot KIM GAR	tot crustal GAR	tot GAR	tot low cr-diop	tot low cr-diop	tot DC	tot diop	tot KIM CD	tot low cr-diop	tot diop	tot IM	tot IM	tot IM	tot KIM IM	tot crustal IM	tot IM	tot CR	tot CR	tot CR	tot KIM CR[r]	tot oth CR	tot CR
number	p	p	s	c	c	c	c	c	p	p(e)	p	s	c	c	c	p	p(e)	s	c	c	c	p	p(e)	s	c	c	c
431	27	9	41	23	9	32	8	40	20	40	3	22	3	19	22	23	33	22	9	10	19	10	15	10	12	1	13
433	31	8	41	30	9	39	2	41	13	n/a	7	20	8	11	19	4	n/a	4	4	0	4	2	n/a	2	1	0	1
435	0	1	1	0	1	1	0	1	2	N/a	0	2	1	1	2	5	N/a	5	2	4	6	16	N/a	16	14	0	14
437	0	0	0	0	0	0	0	0	0	n/a	0	0	0	0	0	0	n/a	0	0	0	0	0	n/a	0	0	0	0
439	1	0	1	1	0	1	0	1	1	n/a	0	1	0	1	1	2	n/a	2	3	0	3	7	n/a	7	6	0	6
441	5	5	13	4	5	9	4	13	6	n/a	1	7	2	5	7	13	n/a	14	11	5	16	29	54	25	28	0	26
443	1	1	2	1	0	1	1	2	2	n/a	0	2	0	2	2	10	n/a	20	10	10	20	9	20	7	5	0	5
447	0	0	0	0	0	0	0	0	0	n/a	0	0	0	0	0	0	n/a	0	0	0	0	0	n/a	0	0	0	0
449	1	0	0	0	0	0	0	0	0	n/a	0	0	0	0	0	0	n/a	0	0	0	0	0	n/a	0	0	0	0
451	3	1	4	3	1	4	0	4	0	n/a	0	0	0	0	0	0	n/a	0	0	0	0	0	n/a	0	0	0	0
453	5	1	6	5	0	5	1	6	2	n/a	1	3	3	0	3	0	n/a	0	0	0	0	0	n/a	0	0	0	0
455	0	0	0	0	0	0	0	0	1	n/a	0	1	0	1	1	0	n/a	0	0	0	0	0	n/a	0	0	0	0
457	6	0	5	5	0	5	0	5	0	n/a	0	0	0	0	0	0	n/a	0	0	0	0	0	n/a	0	0	0	0
459	0	0	0	0	0	0	0	0	0	n/a	0	0	0	0	0	0	n/a	10	0	10	10	0	n/a	0	0	0	0
461	0	0	0	0	0	0	0	0	0	n/a	0	0	0	0	0	0	n/a	0	0	0	0	1	n/a	1	1	0	1
463	0	0	0	0	0	0	0	0	0	n/a	0	0	0	0	0	0	n/a	0	0	0	0	0	n/a	0	0	0	0
465	0	0	0	0	0	0	0	0	0	n/a	0	0	0	0	0	0	n/a	0	0	0	0	0	n/a	0	0	0	0
467	0	0	2	0	0	0	2	2	0	n/a	0	0	0	0	0	8	n/a	8	5	1	6	7	n/a	7	9	0	9
469	0	0	0	0	0	0	0	0	0	n/a	0	0	0	0	0	0	n/a	0	0	0	0	0	n/a	0	0	0	0
471	0	0	0	0	0	0	0	0	1	n/a	0	1	1	1	1	0	n/a	0	0	4	4	5	n/a	5	1	0	1
473	0	0	0	0	0	0	0	0	0	n/a	0	0	0	0	0	0	n/a	0	0	0	0	0	n/a	0	0	0	0
475	0	0	0	0	0	0	0	0	0	n/a	0	0	0	0	0	0	n/a	0	0	0	0	0	n/a	0	0	0	0
477	6	0	7	6	0	6	1	7	3	n/a	0	3	2	1	3	1	n/a	1	1	0	1	1	n/a	1	1	0	1
479	2	0	3	2	0	2	1	3	1	n/a	0	1	1	0	1	1	n/a	5	1	5	6	3	n/a	3	2	0	2
481	0	0	0	0	0	0	0	0	3	n/a	0	3	3	0	3	0	n/a	0	0	0	0	0	n/a	0	0	0	0
483	7	0	7	7	0	7	0	7	0	n/a	1	1	1	0	1	0	n/a	0	0	0	0	0	n/a	0	0	0	0
485	0	0	0	0	0	0	0	0	0	n/a	0	0	0	0	0	0	n/a	0	0	0	0	0	n/a	0	0	0	0
487	0	0	0	0	0	0	0	0	5	n/a	0	0	0	0	5	0	n/a	0	0	0	0	0	n/a	0	0	0	0
489	3	0	13	2	1	3	10	13	1	n/a	0	0	0	0	1	3	n/a	3	4	2	6	12	21	12	4	0	4
491	1	1	1	0	1	1	0	1	1	n/a	1	2	1	1	2	1	n/a	2	1	1	2	0	n/a	0	0	0	0
493	9	5	14	5	4	9	5	14	16	n/a	1	16	1	15	16	1	n/a	1	1	0	1	5	n/a	5	5	0	5

Sample	tot FO	tot FO	tot FO	Picked estimate normalization *		Table feed weight normalization**							Remarks
number	p	s	c	tot (C) KIM IM	tot (C) KIM CR	GP	GO	DC	IM	CR	FO	Table Feed	
431	0	0	0	13	18	15	6	2	8	12	0	17.0	2 spessartine, 3 almandine sent as well; 5 of 12GP removed during mounting - all confirmed as G9; 1 garnet confirmed as staurolite; 1 IM not in vial on arrival from ODM; 4 IM confirmed as CR; 1 CR confirmed as IM
433	0	0	0			22	7	6	3	1	0	15.1	1 spessartine sent as well; 1 GP confirmed = 1of 12 removed during mounting process; 1 DC confirmed as andradite; 1 CR confirmed as other
435	0	0	0			0	2	2	3	23	0	6.6	1 CR confirmed as IM, 1 CR confirmed as other
437	0	0	0			0	0	0	0	0	0	5.5	
439	0	0	0			2	0	0	5	9	0	7.1	1 CR confirmed as ILM
441	0	0	0		52	7	9	3	19	89	0	6.4	3 almandine sent as well; 1 CR not in vial on arrival from ODM; 2 CR confirmed as IM
443	0	0	0		14	3	0	0	26	36	0	4.3	GP confirmed =1 of 12 removed from mountinmg process; 8/10 crustal IM sent were probed; 2CR not in vial on arrival from ODM; 2 CR confirmed as IM
445	0	0	0			0	0	0	0	0	0	11.6	
447	1	1	1			0	0	0	0	0	2	5.6	
449	0	0	0			0	0	0	0	0	0	10.3	
451	0	0	0			2	1	0	0	0	0	14.6	3 GP confirmed = 3 of 12 removed during mounting process
453	0	0	0			4	0	2	0	0	0	13.7	
455	0	0	0			0	0	0	0	0	0	10.3	
457	0	0	0			5	0	0	0	0	0	11.1	1 GP not sent from ODM
459	0	0	0			0	0	0	0	0	0	9.5	10 crustal IM sent
461	0	0	0			0	0	0	0	2	0	6.4	
463	0	0	0			0	0	0	0	0	0	8.4	
465	0	0	0			0	0	0	0	0	0	7.2	
467	0	0	0			0	0	0	5	10	0	10.3	2 spessartine sent; 2 IM confirmed as CR
469	0	0	0			0	0	0	0	0	0	8.1	
471	0	0	0			0	0	1	0	1	0	11.6	4 CR confirmed as IM
473	0	0	0			0	0	0	0	0	0	11.0	
475	0	0	0			0	0	0	0	0	0	13.6	
477	0	0	0			7	0	2	1	1	0	9.3	1 spessartine sent as well
479	0	0	0			2	0	1	1	2	0	10.0	1 grossular sent as well; 1 CR confirmed as IM
481	0	0	0			0	0	5	0	0	0	6.2	
483	0	0	0			6	0	1	0	0	0	12.7	
485	0	0	0			0	0	0	0	0	0	11.3	
487	0	0	0			0	0	0	0	0	0	11.8	
489	0	0	0		7	2	1	0	4	7	0	10.7	8 almandine& 2 spessartine sent as well by ODM; 3 CR confirmed as IM; 5 CR confirmed as other
491	0	0	0			0	1	1	1	0	0	9.3	1 GO not sent by ODM
493	0	0	0			4	3	1	1	4	0	13.8	

Sample	tot GP	tot GO	tot GAR	tot GP	tot GO	tot KIM GAR	tot crustal GAR	tot GAR	tot low cr-diop	tot low cr-diop	tot DC	tot diop	tot KIM CD	tot low cr-diop	tot diop	tot IM	tot IM	tot IM	tot KIM IM	tot crustal IM	tot IM	tot CR	tot CR	tot CR	tot KIM CR[r]	tot oth CR	tot CR
number	p	p	s	c	c	c	c	c	p	p(e)	p	s	c	c	c	p	p(e)	s	c	c	c	p	p(e)	s	c	c	c
495	16	3	19	11	8	19	0	19	6	n/a	0	6	0	6	6	1	n/a	6	1	0	1	0	n/a	0	0	0	0
497	0	0	0	0	0	0	0	0	0	n/a	0	0	0	0	0	0	n/a	0	0	0	0	0	n/a	0	0	0	0
499	0	0	0	0	0	0	0	0	0	n/a	0	0	0	0	0	0	n/a	0	0	0	0	0	n/a	0	0	0	0
501	2	0	2	2	0	2	0	2	1	n/a	0	1	1	0	1	0	n/a	0	0	0	0	0	n/a	0	0	0	0
503	2	0	2	2	0	2	0	2	3	n/a	0	3	2	1	3	0	n/a	0	0	0	0	0	n/a	0	0	0	0
505	2	0	2	2	0	2	0	2	1	n/a	0	1	1	0	1	1	n/a	1	1	0	1	0	n/a	0	0	0	0
509	0	0	0	0	0	0	0	0	0	n/a	0	0	0	0	0	0	n/a	0	0	0	0	0	n/a	0	0	0	0
511	0	0	0	0	0	0	0	0	0	n/a	0	0	0	0	0	0	n/a	0	0	0	0	0	n/a	0	0	0	0
513	3	0	3	3	0	3	0	3	0	n/a	0	0	0	0	0	0	n/a	0	0	0	0	0	n/a	0	0	0	0
515	1	1	5	1	1	2	3	5	0	n/a	1	1	1	0	1	2	n/a	3	2	1	3	0	n/a	0	0	0	0

Sample	tot FO	tot FO	tot FO	Picked estimate normalization *		Table feed weight normalization**							Remarks
number	p	s	c	tot (C) KIM IM	tot (C) KIM CR	GP	GO	DC	IM	CR	FO	Table Feed	
495	0	0	0			11	8	0	1	0	0	11.5	5 crustal IM sent by ODM - vial not sent
497	0	0	0			0	0	0	0	0	0	9.3	
499	1	0	0			0	0	0	0	0	0	10.9	
501	0	0	0			2	0	1	0	0	0	9.5	
503	0	0	0			2	0	2	0	0	0	11.7	
505	0	0	0			2	0	1	1	0	0	9.0	
507	0	0	0			0	0	0	1	2	0	9.8	
509	0	0	0			0	0	0	0	0	0	15.0	
511	0	0	0			0	0	0	0	0	0	13.0	
513	0	0	0			2	0	0	0	0	0	18.1	
515	0	0	0			1	1	1	2	0	0	13.6	3 grossular sent as well; 1 crustal IM sent as well;

Metric Conversion Table

Conversion from SI to Imperial			Conversion from Imperial to SI		
SI Unit	*Multiplied by*	*Gives*	*Imperial Unit*	*Multiplied by*	*Gives*
		LENGTH			
1 mm	0.039 37	inches	1 inch	**25.4**	mm
1 cm	0.393 70	inches	1 inch	**2.54**	cm
1 m	3.280 84	feet	1 foot	**0.304 8**	m
1 m	0.049 709	chains	1 chain	20.116 8	m
1 km	0.621 371	miles (statute)	1 mile (statute)	**1.609 344**	km
		AREA			
1 cm^2	0.155 0	square inches	1 square inch	**6.451 6**	cm^2
1 m^2	10.763 9	square feet	1 square foot	**0.092 903 04**	m^2
1 km^2	0.386 10	square miles	1 square mile	2.589 988	km^2
1 ha	2.471 054	acres	1 acre	0.404 685 6	ha
		VOLUME			
1 cm^3	0.061 023	cubic inches	1 cubic inch	**16.387 064**	cm^3
1 m^3	35.314 7	cubic feet	1 cubic foot	0.028 316 85	m^3
1 m^3	1.307 951	cubic yards	1 cubic yard	0.764 554 86	m^3
		CAPACITY			
1 L	1.759 755	pints	1 pint	0.568 261	L
1 L	0.879 877	quarts	1 quart	1.136 522	L
1 L	0.219 969	gallons	1 gallon	**4.546 090**	L
		MASS			
1 g	0.035 273 962	ounces (avdp)	1 ounce (avdp)	28.349 523	g
1 g	0.032 150 747	ounces (troy)	1 ounce (troy)	**31.103 476 8**	g
1 kg	2.204 622 6	pounds (avdp)	1 pound (avdp)	**0.453 592 37**	kg
1 kg	0.001 102 3	tons (short)	1 ton (short)	**907.184 74**	kg
1 t	1.102 311 3	tons (short)	1 ton (short)	**0.907 184 74**	t
1 kg	0.000 984 21	tons (long)	1 ton (long)	**1016.046 908 8**	kg
1 t	0.984 206 5	tons (long)	1 ton (long)	**1.016 046 90**	t
		CONCENTRATION			
1 g/t	0.029 166 6	ounce (troy)/ ton (short)	1 ounce (troy)/ ton (short)	34.285 714 2	g/t
1 g/t	0.583 333 33	pennyweights/ ton (short)	1 pennyweight/ ton (short)	1.714 285 7	g/t

OTHER USEFUL CONVERSION FACTORS

	Multiplied by	
1 ounce (troy) per ton (short)	31.103 477	grams per ton (short)
1 gram per ton (short)	0.032 151	ounces (troy) per ton (short)
1 ounce (troy) per ton (short)	20.0	pennyweights per ton (short)
1 pennyweight per ton (short)	0.05	ounces (troy) per ton (short)

Note: Conversion factors which are in bold type are exact. The conversion factors have been taken from or have been derived from factors given in the Metric Practice Guide for the Canadian Mining and Metallurgical Industries, published by the Mining Association of Canada in co-operation with the Coal Association of Canada.